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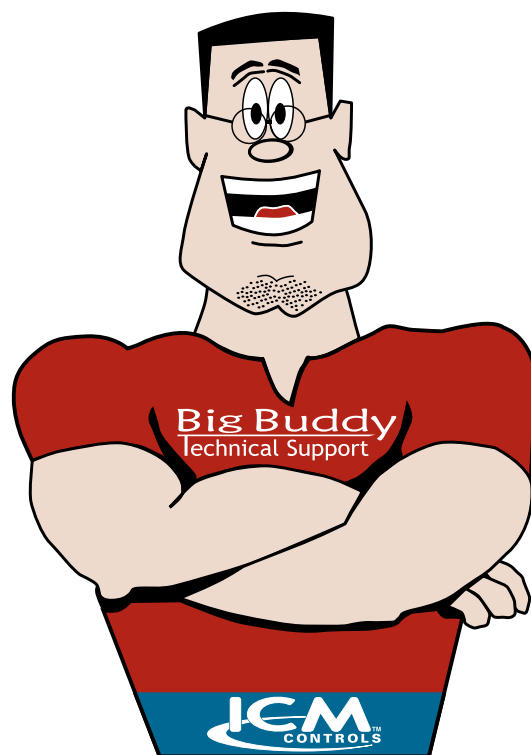
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HVACR CONTROLS

REPLACEMENT MODEL	ICM P/N	REPLACEMENT MODEL	ICM P/N	REPLACEMENT MODEL	ICM P/N
CONDENSATION CONTROL/ALARM		DELAY ON BREAK TIMERS (continued)		DUTY CYCLE CONTROLS	
Water Guard: 401475	ICM340	Supco: TD733W (18-30v)	ICM200F	Carrier: HN67ZA012A	ICM305
DELAY ON MAKE TIMERS		Supco: TD735 (18-30v)	ICM201	SSAC: ESDR, TSDR Series	ICM305
A-1: 7061	ICM103	Supco: TD735W (18-30v)	ICM201F	SSAC: ESDR, TSDR Series	ICM306
A-1: EAC-701-ADJ	ICM102	Supco: TD73W	ICM203F		
A-1: EAC-710-180, EAC-701-180-W, EAC-700-A	ICM100	Supco: TD74	ICM206	FAN BLOWER CONTROLS	
A-1: EAC-710-300, EAC-701-300-W	ICM101	Supco: TD74H	ICM209	Texas Instruments: 2FD-1	ICM272
Carrier: HN67KZ002	ICM151	Supco: TL243	ICM204	A-1: 5893	ICM255
Diversified: ASC-200	ICM150	Supco: TL243	ICM207	Bard: 8201-056	ICM255
Diversified: AC-800	ICM102, ICM105	Supco: TL245	ICM205, ICM208	Carrier: 302075-3, CES0110017, CES0110018	ICM271
Diversified: ASC-600, ASC-601	ICM105	Trane: X13270061-01	AMS	Carrier: CES0110019	ICM275
Diversified: ASC-600-3, ASC-601-3	ICM100	Wagner/DiversiTech: ADB-1	ICM203	Carrier: HH84AA001/003/005/009/014/015/021	ICM275
Gemline: 1C213	ICM102, ICM103, ICM105	Wagner/DiversiTech: ADB-2	ICM203F	Carrier: HH84AA010/011/012/013/020, P771-7002	ICM271
Gemline: 1C310	ICM102, ICM105			Carrier: HK51GA003	ICM276
Ice-O-Matic: TD3001A	ICM103	DEFROST CONTROLS		Carrier: HK61GA001/03	ICM272
MARS: 32019, 32391, 32367	ICM102	Amana: C64301-1, C64310-1	ICM300	EMI: 240000-969	ICM273
MARS: 32394, 32396	ICM103	Arcoaire: 32312-00, 3232140	ICM300	EMI: 240-1764	ICM274
MARS: 32091	ICM105	Artesian: 10321-00	ICM300	Evcon: 2702-300	ICM270
MARS: 32395	ICM175	Avion: DFT100	ICM315	Field Controls: 46144700	ICM253
MARS: 32377, 32397	ICM500	Carrier: CES0110063-00, -01, -02, -02A	ICM321	Gemline: 1C216	ICM253
MARS: 32378, 32398	ICM501	Carrier: CES0130024-00	ICM322	Goodman: B1370735S, PCBFM131S	ICM277
MARS: 32379, 32399	ICM502	Carrier: HK25SZ359/9A	ICM320	Honeywell: S876A1016	ICM254
MARS: 32350	ICM500D-C-11	Carrier: HK32FA006	ICM320	MARS: 32377, 32378, 32379	ICM251
MARS: 32351	ICM501D-C-11	Coleman: 3030A374	ICM300	MARS: 32393	ICM253
MARS: 32352	ICM502D-C-11	Essex: 621-1 to 621-10, 621-110, 621-111, 621-310-110	ICM300	MARS: 32574	ICM255
MARS: 32361, 32362	ICM150	Evcon: 9218-374	ICM303	Rheem: 42-22515-01/02/03	ICM255
Robertshaw: 3310-068	ICM103	Fast: 1093410	ICM307	Rheem: 47-22827-01	ICM270
Supco: TD32	ICM175	Goettl: 305007	ICM301	Rheem: 47-22827-81/82/83	ICM270
Supco: TD68	ICM105	Goettl: 305023	ICM329	Rheem: 47-22828-01/02	ICM270
Supco: TD69	ICM102	Goettl: 305057	ICM324	Rheem: 47-23619-02/03	ICM276
Supco: TD693 (18-30v)	ICM100	Goodman: B12260-06	ICM300	Robertshaw: 457-23619-03	ICM276
Supco: TD693W (18-30v)	ICM100F	Goodman: B1226008	ICM318	Robertshaw: RS100-833-02	ICM276
Supco: TD695 (18-30v)	ICM101	Heil Quaker: HQ1052757	ICM300	Robertshaw: 695-003	ICM270
Supco: TD695W (18-30v)	ICM101F	Honeywell: ST74A1004/20/38	ICM300	Robertshaw: 695-100	ICM271
Supco: TD69W	ICM102F	ICM: AG1004	ICM329	Robertshaw: 695-101	ICM275
Supco: TMF-19, TMF-80	ICM103	ICM: AJ1008	ICM324	Snyder General/ICP: 1395336	ICM255
Wagner/DiversiTech: ADM-1	ICM102	ICM: DFORB24A21300	ICM319	Watsco: PSTD-000-005W, PSTD-000-060W	ICM254
Wagner/DiversiTech: ADM-2	ICM102F	ICM: DFORB-AB1004	ICM302		
York: 031-01204-000	ICM151	ICM: DFORF	ICM303	FAN COIL RELAY CONTROL BOARDS	
		ICM: DFOSP24A2	ICM301	BSR/Xactone: FC/H-1	ICM6201
		ICM: W1001-4	ICM318	BSR/Xactone: FC/H-2	ICM6201
		ICP: 1052757	ICM300	Honeywell: W6380B	ICM6200
		ICP: 1069364	ICM304		
		ICP: Heat active (B) RV	ICM323	FAN SAFETY ALARM	
		Intertherm: 6208800	ICM300	Functional Devices: RIBMNLB-6	ICM6100
		Lennox: 33G9501	ICM300		
		Lennox: 86G16	ICM307	FURNACE CONTROL BOARDS	
		MARS: 32572	ICM300	Carrier: 325878-751	ICM282
		Nordyne: 621301A	ICM302	Carrier: CES0110057-00/01/02	ICM281
		Nordyne: 621579B, 621579C	ICM302	Carrier: CES0110074-01	ICM2804
		Nordyne: 917178	ICM302	Carrier: HK42FZ-004/007/008/009/011/013/016	ICM282A
		Nordyne: 624519A	ICM319	Carrier: LH33WP003/3A	ICM291
		Ranco: DT2	ICM307	Goodman: PCBFB112S, B1809926S	ICM286
		Ranco: E-15	ICM315	Goodman: B18099-04	ICM287
		Rheem: 47-21776-01/06	ICM300	Goodman: B18099-06/08/10/13/13S	ICM280
		Robertshaw/Uni-Line: TD-10, DT2-1000	ICM300	Lennox: All BCC1, BCC2, BCC3 circuit boards, including 48K98	ICM289
		Snyder General: 1395-329	ICM300	Nordyne: 903106-Kit	ICM2805A
		Steveco: 90-621	ICM300	Rheem: 62-24140-04	ICM292
		Therm-O-Disc: 26E-10	ICM300	Rheem: 62-24084-82	ICM288
		Trane: 21C142827G01	ICM316	Texas Instruments: 41F-5	ICM280
		Trane: CNT1152, CNT1642	ICM316	UTEC: 1012-933D	ICM280
		Weatherking (Addison): 840-4-5548	ICM300	White-Rodgers: 50T35-730	ICM280
		White-Rodgers: 90-621	ICM300	White-Rodgers: 50T35-743	ICM280
		York: 03101251000	ICM303	York: 03101280000	ICM284
		York: 9218-3741	ICM303	York: 7990-319P	ICM2801
DELAY ON BREAK TIMERS					
A-1: EAC-426-180	ICM204, ICM207				
A-1: EAC-426-300	ICM205, ICM208				
A-1: EAC-426-ADJ	ICM206, ICM209				
A-1: EAC-500	ICM200F, ICM201, ICM201F				
A-1: EAC-501-300-W	ICM201, ICM201F				
A-1: EAC-501-180-W	ICM200				
A-1: EAC-501-ADJ	ICM203				
A-1: EAC650	ICM210, ICM212				
Diversified: AC-100-3	ICM200, ICM204, ICM207				
Diversified: AC-100-5	ICM205, ICM208				
Diversified: AC-503	ICM203				
Diversified: AC-505-5	ICM201F				
Diversified: ASC-500-5	ICM201				
MARS: 32390	ICM201				
MARS: 32005, 32505	ICM201F				
MARS: 32001, 32387, 32392	ICM203				
MARS: 32381	ICM204, ICM207				
MARS: 32382	ICM205, ICM208				
MARS: 32565	ICM209				
Robertshaw: 3310-072	ICM203				
Robertshaw: 3310-183	ICM204, ICM207				
Robertshaw: 3310-305	ICM205, ICM208				
Supco: TD72, TD73	ICM203				
Supco: TD733 (18-30v)	ICM200				

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HVACR CONTROLS

REPLACEMENT MODEL	ICM P/N
GAS IGNITION CONTROLS	
Honeywell: S8610U (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)	ICM290A
Honeywell: S8910U-1000	ICM283
Carrier: LH33WZ510	ICM295
Carrier: LH33WZ512A	ICM296
Johnson Controls: G776 (63K2401, 41K8701, 69J3601)	ICM293, ICM2902
Johnson Controls: G770RJA-1	ICM294, ICM2901
Lennox: 30W33	ICM293
Robertshaw: 745 (95H04), 745L (18G91)	ICM293
Robertshaw: H5780	ICM283
White Rodgers: 50E47, 50F47	ICM283
York: 025-27762-700	ICM294

HEAD PRESSURE CONTROLS	
ACT: FM2000	ICM325HN
ACT: FM4000	ICM327HN
ACT: FM4000	ICM326HN
Hoffman: 800, 800A, 800AA, 814-50, 816-10	ICM325HN, 326HN, 327HN
Johnson Controls: P66AAB/AAD	ICM330 (DIN Rail), ICM332 (For 1 temp or 1 pres input)
Johnson Controls: P66BAB/BAD	ICM333 (For 2 temp or 2 pres inputs)
Mitsubishi: MU09NW, MUH09NW, MU12NN, MU15NN, MU17NN, MUM18NW, MUM30NN, MUM30NN2	ICM326HM2
Ranco: E31	ICM325HN, 326HN, 327HN
Optional Pressure Transducer	ICM380

IMPEDANCE/LOCKOUT RELAY	
Essex: Relay Series 84,93	ICM220

LEAD-LAG CONTROLLERS	
Regulates 1 or 2 Heating/Cooling Systems	ICM600
Open Board Version of ICM600	ICM601
Open Board Lead-Lag Control	ICM602

LINE MONITORS	
A-1: EAC-401, 402, 403, 404	ICM491
A-1: EAC-800, EAC-8000, EAC-8002	ICM400, ICM450 (ICM450S - Spanish)
Bristol: 241680	ICM441
Copeland: 071-0376-01 & -02, 071-0397-00 & -01, 071-0424-00 & -01, 071-9800-01 & -02	ICM441
Copeland: 085-0160-00	ICM450 (ICM450S - Spanish)
Diversified: AC-2020, AC-301, AC-302	ICM400, ICM450 (ICM450S - Spanish)
Diversified: CV-100-RS, CV-200-RS15, CV-200-RS20	ICM491
Function of ICM400C, DIN Rail Mount	ICM409
Function of ICM400C, Plug-in Panel Mount	ICM408
MARS: 32512, 32515, 32516, 32517	ICM400
MARS: 32536	ICM401, ICM402
MARS: 32532, 32534, 32540, 32541, 32542	ICM408
MARS: 37300, 37302, 37304, 37306, 37322	ICM441
MARS: PFM-2000	ICM450
Motorsaver: 455	ICM400, ICM450 (ICM450S - Spanish)
SSAC: QLM, QLV	ICM400, ICM450 (ICM450S - Spanish)
Supco: TPMP2	ICM401, ICM402
Texas Instruments: 15AA1600B, 15AA1600C, 15AA1603B, 15AA1603C, 31AA1600E, 31AA1606E	ICM441
TimeMark: 265	ICM400, ICM450 (ICM450S - Spanish)
Wagner/DiversiTech: DSP-1	ICM491, ICM492
Wagner/DiversiTech: DTP-3, WPC-800	ICM400, ICM450 (ICM450S - Spanish)

MOTOR STARTERS/RAPID START	
5-2-1: CSR-U1	ICM803
5-2-1: CSR-U2/U3	ICM805
A-1: WSX-5	ICM855
A-1: WSX-6	ICM856

MOTOR STARTERS/RAPID START (continued)	
Kickstart: KS1	ICM805
Kickstart: TO5, KS8	ICM803
MARS: 32701, 35701	ICM855
MARS: 32702, 35702	ICM856
MARS: 32481	ICM857
Supco: SPP-5	ICM855
Supco: SPP-5E	ICM850
Supco: SPP-6	ICM856
Supco: SPP-6E	ICM860
Supco: SPP-8, SPP-8E	ICM803
Supco: RCO210	ICM859
Supco: RCO410	ICM858
Supco: RCO810	ICM857
Wagner/DiversiTech: DST-5	ICM855
Wagner/DiversiTech: DST-6	ICM856

UNIVERSAL MOTOR STARTING RELAYS	
Supco: SUPR, APR5	UMSR-30, UMSR50

OIL BURNER PRIMARY CONTROL	
Carlin: 48245	ICM1503
Honeywell: R8184G: 4009, 1138, 1427, 4025	ICM1503
Honeywell: R8184G: 4066, 1161, 1294	ICM1501
Honeywell: R8184G: 4074, 1179, 1302, 4033	ICM1502
White-Rodgers: 668-401	ICM1503

SURGE PROTECTION	
Ditek: DTK-120/240CM	ICM515
Supco: SCM	ICM515
Supco: SCMPlus, SCM150	ICM516

SIMPLECOMFORT® THERMOSTATS

REPLACEMENT MODEL	ICM P/N
7-DAY PROGRAMMABLE THERMOSTATS	
Honeywell: T8011R Series	SC3211L
Honeywell: T8112D, T8000C, T8600D Series	SC3000L
Honeywell: TH6110D1005, TH6110D1021	SC5010
Honeywell: TH6220D1002, TH6220D1028	SC5811 (Hardwired only)
Honeywell: TH6320U1000, TH8320U1008	SC5813 (Hardwired only)
Honeywell: T8600D2028, TH4110D1007, TH2110D1099	SC3010L, SC5010
Honeywell: TH4210D1005, TH2110D1007	SC3211L (Hardwired only)
Robertshaw: 300-227	SC5812, SC5813
Robertshaw: 300-229, 9615	SC5811
Robertshaw: 8600-1, 9600, 9610, RS3110	SC3000L, SC3010L
Robertshaw: 8601-1	SC3001L
Robertshaw: 8625-1	SC3211L (HP only), SC5811
Robertshaw: RS5110, RS6110	SC5010
White-Rodgers: 1F78-151	SC3000L
White-Rodgers: 1F80-361, 1F80-0261, 1F87-361	SC3010L
White-Rodgers: 1F80-0471, 1F80-0671, 1F97-1277	SC5010
White-Rodgers: 1F72-151, 1F82-261, 1F82-0261	SC3211L
White-Rodgers: 1F81-261, 1F85-0422	SC5811
White-Rodgers: 1F85-275, 1F85-277, 1F85-0471	SC5813 (w/2-stage HP only)
White Rodgers: 1F93-380, 1F95-1277	SC5812 (HW only; w/2-stage HP only)

NON-PROGRAMMABLE THERMOSTATS	
Honeywell: Mechanical T810C, T822C	SC1901L, SC1901VL
Honeywell: T8034N, T834N, T822K Series	SC1001, SC1001V
Honeywell: T8400, T8401 Series	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Honeywell: T8411R	SC2211L
Honeywell: T8411R, T8511G	SC2201L, SC2201VL
Honeywell: T8775A1009	SC1600L, SC1600VL, SC1800L, SC1800VL
Honeywell: T8775C1005	SC2001L, SC2001VL
Honeywell: T87F-3467, T87N1000, T87N1026	SC1001, SC1001V
Honeywell: TH1100D1001	SC1600L, SC1600VL (Battery only)
Honeywell: TH1110D1000, TH3110D1008	SC2010L
Honeywell: TH1210D1008, TH3210D1004	SC2201L, SC2201VL (Hardwired only)

NON-PROGRAMMABLE THERMOSTATS (continued)	
Honeywell: TH5110D1006, TH5110D1022	SC4010
Honeywell: TH5220D1003, TH5220D1029	SC4811 (Hardwired only)
Honeywell: TH5320U1001	SC4812
Robertshaw: 900 Series, 9200	SC1001, SC1001V
Robertshaw: 300-201	SC4010, SC4011
Robertshaw: 300-202	SC4812, SC4813
Robertshaw: 300-203	SC4811
Robertshaw: 300-208	SC4211
Robertshaw: 300-206	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Robertshaw: 300-207	SC2201L, SC2201VL
Robertshaw: 300-204	SC1600L, SC1600VL, SC1800L, SC1800VL
Robertshaw: 300-205, 8406-1	SC1901L, SC1901VL
Robertshaw: 8400-1, 9400, 9500, RS2110	SC2000L, SC2000VL, SC2010L
Robertshaw: 8401-1, 9401	SC2001L, SC2001VL
Robertshaw: 8405-1, 9405, 9505	SC1800L, SC1800VL
Robertshaw: 8425-1, 9420, 9520	SC2211L
Robertshaw: 9415, 9555	SC4811
Robertshaw: 9550	SC4010, SC4011
Robertshaw: 9560	SC4211
Robertshaw: RS2210	SC2311L
Robertshaw: RS4110	SC4010
White-Rodgers: 1E56, 1F56 Series	SC1001, SC1001V
White-Rodgers: 1E78-140 Vertical	SC1600VL, SC1800VL
White-Rodgers: 1F78-144	SC2000L, SC2000VL
White-Rodgers: 1F86-344, 1F86-0244	SC2010L
White-Rodgers: 1F86-0471	SC4010
White-Rodgers: 1F79-111, 1F89-211	SC2201L, SC2201VL, SC2211L
White-Rodgers: 1F83-261	SC4811
White-Rodgers: 1F83-277, 1F83-0422, 1F83-0471	SC4813 (w/2-Stage HP only)
White-Rodgers: Mechanical 1F30-321, 1C20-102	SC1600L, SC1600VL
White-Rodgers: Mechanical 1F51-609	SC1901L, SC1901VL

TEMPORARY THERMOSTATS	
Jackson Systems: CL-45, CL 55, CL-75 (cool)	SC0: 45, 55, 75
Jackson Systems: TS-60, TS-65 & TS-70 (heat)	SC0: 60, 65, 70

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Delay on Make Timers – Ideal for Compressor Staging

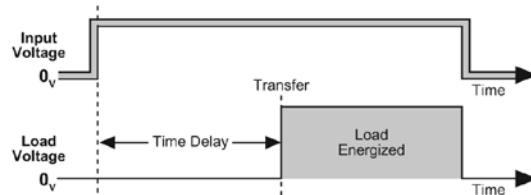
APPLICATIONS

Ideal for compressor staging and stagger starting multiple motors and other equipment. Helps to reduce power surges.

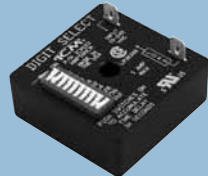
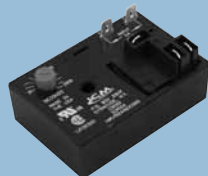
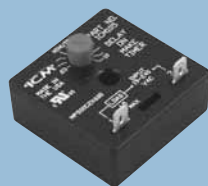
MODE OF OPERATION

When power is applied to the input, the time delay begins. After the time delay is complete, the load energizes.

TIMING DIAGRAM



Delay on Make Timers

ICM Control	Features and Applications	Specifications	Replaces
	ICM100, 100F, 101, 101F - Higher 1.5 amp power rating - Ideal for compressor staging/delaying the startup of motors and other devices - Works with anticipator-type thermostats - Simple 2-wire hookup - ICM100, 100F: 3-minute delay - ICM101, 101F: 5-minute delay "F" suffix denotes 6" wire leads	Voltage: 18-30 VAC 1 amp 10 amp inrush 40 mA holding current Fixed delays: 3 or 5 minutes Voltage drop: 2.5 V @ 1.5 amps Dimensions: 2" x 2"	ICM100 A-1: EAC-710-180 EAC-701-180-W EAC-700-A Diversified: ASC-600-3, ASC-601-3 Supco: TD693 (18-30 VAC) ICM100F Supco: TD693W (18-30 VAC) ICM101 A-1: EAC-710-300 EAC-701-300-W Supco: TD695 (18-30 VAC) ICM101F Supco: TD695W (18-30 VAC)
	ICM102, 102F - Universal voltage operation - Higher 1.5 amp power rating - Knob-adjustable time delays - Works with anticipator-type thermostats - One model replaces many in field - Ideal for compressor staging - Simple 2-wire hookup "F" suffix denotes 6" wire leads	Voltage: 18-240 VAC 1.5 amps 15 amp inrush 40 mA holding current Adjustable delay: .03-10 minutes (1.8-600 seconds) Voltage drop: 2.5 V @ 1.5 amps Dimensions: 2" x 2"	ICM102 A-1: EAC-701-ADJ Diversified: AC-800 Gemline: 1C310, 1C213 Mars: 32019, 32391, 32367 Supco: TD69 Wagner/DiversiTech: ADM-1 ICM102F Supco: TD69W Wagner/DiversiTech: ADM-2
	ICM103 - Highly precise digital timing - Switch-settable time delays - Ideal for ice machine applications - Universal voltage operation - Repeat accuracy .5% over voltage and temperature range	Voltage: 18-240 VAC 1 amp 10 amp inrush 40 mA holding current Switch-settable delays: Range from 1-1,023 sec. Voltage drop: 2.5 V @ 1 amp Dimensions: 2" x 2"	ICM103 A-1: 7061 Gemline: 1C213 Ice-O-Matic: TD3001A Mars: 32394, 32396 Robertshaw: 3310-068 Supco: TMF-19, TMF-80
	ICM104 - Highly precise digital circuitry - High power, SPDT relay output - Input to output isolation - Works with anticipator-type thermostats - Repeat accuracy .5% over voltage and temperature range - Rugged, compact package 115 and 240 VAC models available	Voltage: 18-30 VAC Output: N.O.: 20 amps @ 240 VAC N.C.: 10 amps @ 240 VAC Form: SPDT, 1 form C Knob-adjustable time delay: 10-1,000 seconds Holding current: 40 mA Dimensions: 2" x 3"	Mars: 32394/32398
	ICM105 - Low holding current - Low cost version of the ICM102 without the cooling anticipator circuitry - Ideal for compressor staging - Universal voltage operation - Knob-adjustable time delays - Simple 2-wire hookup	Voltage: 18-240 VAC 1.5 amps 15 amp inrush 10 mA holding current Adjustable delay: .03-10 minutes (1.8-600 seconds) Voltage drop: 2.5 V @ 1 amp Dimensions: 2" x 2"	Diversified: AC-800, ASC-600/601 Gemline: 1C310/1C213 Mars: 32091 Supco: TD68

Delay on Break Timers (Anti-Short Cycle Protection)

APPLICATIONS

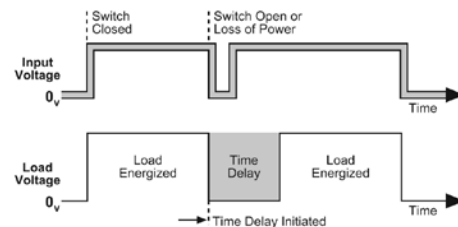
"Anti-short cycle" "ON delay on break"

Helps to protect air conditioning, refrigeration and heat pump equipment from damage which may be caused by the rapid short cycling of compressors.

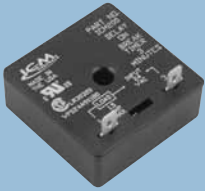
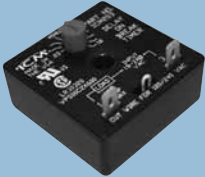
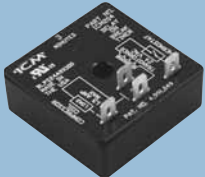
MODE OF OPERATION

Upon application of power, the load is energized. When the thermostat or other switch opens or there is a loss of power, the load is de-energized and the delay period begins. The compressor will not start again during the delay period. Restart occurs after the delay period has elapsed.

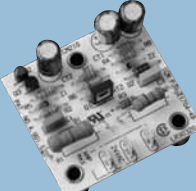
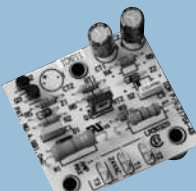
TIMING DIAGRAM

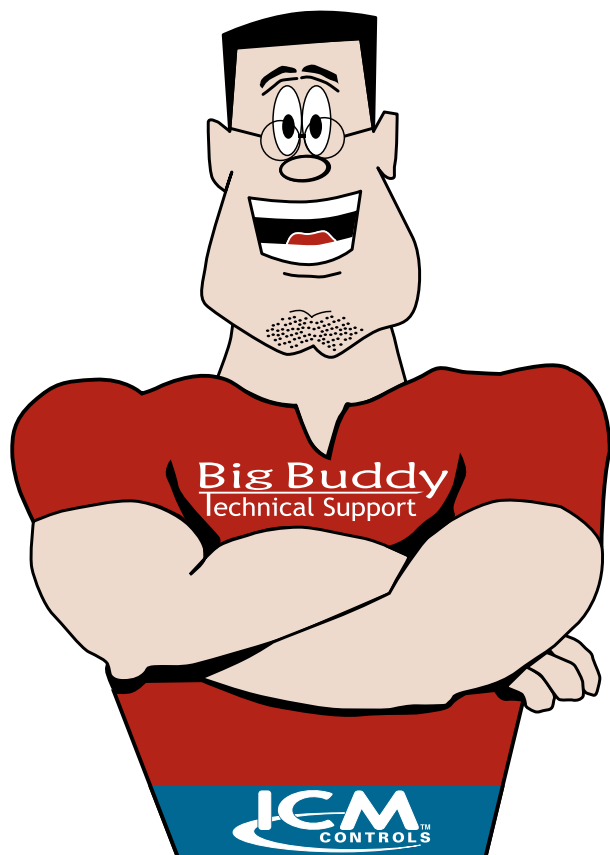


Delay on Break Timers

ICM Control	Features and Applications	Specifications	Replaces
	ICM200, 200F, 201, 201F - Higher 1.5 amp power rating - Compressor lockout/anti-short cycle timer - Helps to protect compressors from damage caused by rapid short cycling - Simple, 2-wire hookup - SERIES: ICM200, 200F: 3-minute delay ICM201, 201F: 5-minute delay "F" suffix denotes 6" wire leads	Voltage: 18-30 VAC 1.5 amps 15 amp inrush Frequency: 50-60 Hz Fixed time delays: 3 or 5-minutes Voltage drop: 3.5 V typical 4.5 V maximum @ 1.5 amps Holding current minimum: 40 mA Dimensions: 2" x 2"	ICM200 - A-1: EAC-501-180-W Diversified : AC-100-3 Supco : TD733 (18-30 VAC) ICM200F - A-1: EAC-500 Supco: TD733W (18-30 VAC) ICM201 - A-1: EAC-500, EAC-501-300-W Diversified: ASC-500-5 Mars: 32390 Supco: TD735 (18-30 VAC) ICM201F - A-1: EAC-500, EAC-501-300-W Diversified: AC-505-5 Mars: 32005, 32505 Supco: TD735W (18-30 VAC)
	ICM203, 203F - Universal voltage operation - Higher 1.5 amp power rating - Compressor lockout/anti-short cycle timer - Helps to protect compressors from damage caused by rapid short cycling - Simple, 2-wire hookup "F" suffix denotes 6" wire leads	Voltage: 18-240 VAC 1.5 amps 15 amp inrush Frequency: 50-60 Hz Knob-adjustable delays: .03-10 mins. (1.8-600 sec.) Voltage drop: 3.5 V typical 4.5 V maximum @ 1.5 amps Holding current minimum: 40 mA Dimensions: 2" x 2"	ICM203 - A-1: EAC-501-ADJ Diversified: AC-503 Mars: 32001, 32387, 32392 Robertshaw: 3310-072 Supco: TD72, TD73 Wagner/DiversiTech: ADB-1 ICM203F Supco: TD73W Wagner/DiversiTech: ADB-2
	ICM204, 205, 206 - Brownout protection - UL 873 recognition as compressor controller - Helps prevent scroll compressor reversal - Fast response time: 16 ms - Compressor lockout/anti-short cycle timer - Prevents low voltage starts - Eliminates relay chatter due to thermostat bounce or tampering - Works with anticipator-type thermostats - Patented: U.S. Patent No. 4,991,049 - SERIES: ICM204: 3-minute delay ICM205: 5-minute delay ICM206: 3-10 minute delay	Voltage: 18-30 VAC 1.5 amps 15 amp inrush Frequency: 50-60 Hz Adjustable time delays: 3 or 5-minute fixed or 10-minute adjustable time delay Holding current minimum: 40 mA Dimensions: 2" x 2"	ICM204 - A-1: EAC-426-180 Diversified: AC-100-3 Mars: 32381 Robertshaw: 3310-183 Supco: TL243 ICM205 - A-1: EAC-426-300 Diversified: AC-100-5 Mars: 32382 Robertshaw: 3310-305 Supco: TL245 ICM206 - A-1: EAC-426-ADJ Supco: TD74

Delay on Break Timers (continued)

ICM Control	Features and Applications	Specifications	Replaces
	ICM207, 208, 209 • Universal voltage operation • Helps prevent scroll compressor reversal • Fast response time: 16 ms • Compressor lockout/anti-short cycle timer • Eliminates relay chatter due to thermostat bounce or tampering • Works with anticipator-type thermostats • SERIES: ICM207: 3-minute delay ICM208: 5-minute delay ICM209: .03-10 minute delay	• Voltage: 18-240 VAC • 1 amp • 10 amp inrush • Frequency: 50-60 Hz • Adjustable time delays: • 3 or 5-minute fixed or 10-minute adjustable time delay • Holding current minimum: 40 mA • Dimensions: 2" x 2"	ICM207 • A-1: EAC-426-180 • Diversified: AC-100-3 • Mars: 32381 • Robertshaw: 3310-183 • Supco: TL243 ICM208 • A-1: EAC-426-300 • Diversified: AC-100-5 • Mars: 32382 • Robertshaw: 3310-305 • Supco: TL245 ICM209 • A-1: EAC-426-ADJ • Mars: 32565 • Supco: TD74H
	ICM210, ICM212 • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer plus random start function • Dual function delay on make/break • Random start delay is ideal for stagger-starting multiple units • Low cost, open board package • Conformally coated for added protection • Order ICM212 for plastic standoffs	• Voltage: 18-30 VAC • 1 amp • 10 amp inrush • Frequency: 50-60 Hz • Random start time: up to 3 seconds • ASC time delay: 5-minute fixed • Voltage drop: 2.5 V @ 1 amp	• A-1: EAC 650
	ICM211 • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer • Low cost, open board package • Conformally coated for added protection	• Voltage: 18-30 VAC • 1 amp • 10 amp inrush • Frequency: 50-60 Hz • ASC time delay: 5-minute fixed • Voltage drop: 2.5 V @ 1 amp	Same as ICM210 without random start time



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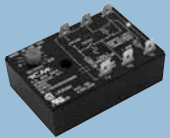
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Random Start Timers

APPLICATIONS	TIMING DIAGRAM
"Delay on make/delay on break" Ideal for use in compressor staging and to stagger-start multiple rooftop units. Helps to reduce power surges. No need to wait for the 5-minute delay typical of delay on make timers.	* Delay on make time is proportional to selected Delay on break time.
MODE OF OPERATION	
Upon application of power, the delay on make period begins. Once the delay is complete, the unit energizes. Upon opening of thermostat or loss of power, the load is de-energized and the anti-short cycle period begins. The compressor will not start again during the delay period. Safety Switch (ICM151): Upon interruption of power to the compressor via the pressure/limit switch(es), the compressor will be locked out until the lockout delay expires and the control is reset by cycling the thermostat OFF then ON, with the safety circuit re-closed.	

Ideal for Stagger Starting

ICM Control	Features and Applications	Specifications	Replaces
	ICM150 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer - Integral random start capability - Random start delay is ideal for stagger-starting multiple units - Reduces nuisance lockouts/service calls	Voltage: 18-30 VAC 1 amp 10 amp inrush 40 mA holding current Form: SPST, N.O. Time delay: 6-600 seconds knob-adjustable - Voltage drop 1.5 V @ 1 amps Dimensions: 2" x 2"	Diversified: ASC-200 Mars: 32361, 32362
	ICM151 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer with random start feature plus: - Safety switch lockout - Remote thermostat reset - Reduces nuisance lockouts/service calls	Voltage: 18-30 VAC 1 amp 10 amp inrush 40 mA holding current Time delay: 1-600 seconds knob-adjustable Dimensions: 2" x 3"	Carrier: HN67KZ002 York: 031-01204-000

Bypass Timers

APPLICATIONS	TIMING DIAGRAM
"ON delay interval timer," "Normally closed delay on make" Designed to bypass a control or device during startup. Typically used to bypass a low pressure switch during compressor heat pump startup or to bypass an oil pressure switch upon startup. Helps to eliminate nuisance lockouts.	
MODE OF OPERATION	
With power applied to the input, the load energizes immediately and remains energized for the length of the time delay, regardless of the state of the switch being bypassed. At the end of the time delay, the condition of the load is determined by the state of the switch.	

To Bypass a Switch or Device During Startup

ICM Control	Features and Applications	Specifications	Replaces
	ICM175 - Designed to bypass a low pressure switch or other device during startup - Ideal for low ambient startups - Key component for "winter start" kits - Helps to reduce nuisance lockouts - Universal AC voltage operation - Knob-adjustable time delay - Epoxy-encapsulated circuitry	Voltage: 18-240 VAC 1 amp maximum 40 mA minimum 10 amp inrush Frequency: 50-60 Hz Knob-adjustable time delay: 10-1,000 seconds Dimensions: 2" x 2"	Mars: 32395 Supco: TD32

Multimode Digital Timers

Versatile, Simple, Accurate

ICM Control	Features and Applications	Specifications	Replaces
	ICM500/501/502/503/504/505 - Multi-mode, selectable time delay ranges - Crystal timing accuracy - Microprocessor controlled 4 single and two dual timing modes - DOM, DOB, interval, single shot - DOM/DOB and repeat cycle - Easy to select, switch-settable delays - Bright LEDs indicate input and output - Switch-settable time delays: 1 to 1,023 seconds or minutes in multiples of 0.1, 1, 10, 100 75 millisecond reset time during and after timing; May be reset during the time delay period without false output 8-pin base standard models. Add suffix D for 11-pin models 8-pin is for single pole; 11-pin is for double pole - Base sold separately	Voltage: 24, 115 or 240 VAC 12, 24 or 110 VDC Frequency: 50-60 Hz Power consumption: 2 watts maximum Output: 8-pin = SPDT 11-pin = DPDT Relay: 10 amps resistive at 240 VAC 1/6 HP @ 115 VAC 1/3 HP @ 240 VAC Dimensions: 4" x 2.5" x 1.75"	Mars: 32350, 32351, 32352
	ACS-8, ACS-11 Relay Sockets - Relay socket 8-pin octal plug-in base - Locating key ensures proper orientation - Order ACS-11 for 11-pin base - For use with ICM408, ICM410-427, ICM431, ICM432, ICM500-505	10 amps up to 480 VAC	Diversified: RB-08

Series 500 Ordering Information

ICM Series	Input Voltage	Output Type	Description
ICM500	24 VAC	Single Pole, 1 FORM C 8-pin	Control operating modes: • DOM, DOB, interval, single shot, DOM/DOB and repeat cycle Time delay adjustment: • Switch-settable delays from 1-1,023 seconds/minutes in multiples of .1, 1, 10 and 100 Plug-in bases are to be ordered separately • Specify 8-pin or 11-pin* 8-pin = ACS-8 11-pin = ACS-11
ICM501	115 VAC		
ICM502	240 VAC		
ICM503	12 VDC		
ICM504	24 VDC		
ICM505	110 VDC		

*Note: For 11-pin base model, double pole, 2 FORM C- add suffix D Example: ICM501D = 115 VAC, 11 pin



For volume orders, ICM Controls can also custom configure a relay or control for your needs.

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Freeze Protection Modules

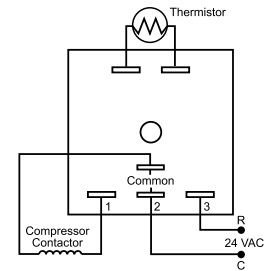
APPLICATIONS

The ICM308/309/310 are low cost, fixed, single setpoint temperature controls that provide freeze protection.

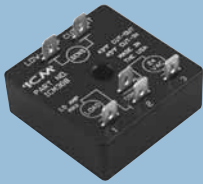
ORDERING INFORMATION

Part #	Temperature Cut-Out (OFF)	Temperature Cut-In (ON)
ICM308	43°F	45°F
ICM309	28°F	55°F
ICM310	44°F	48°F

WIRING DIAGRAM



ICM Control



Features and Applications

ICM308/309/310

- Low cost, fixed, single setpoint temperature controls that provide freeze protection
- Small compact package
- Epoxy encapsulated for moisture protection
- Temperature sensor included

Specifications

- **Input:**
 - Voltage: 18-30 VAC
 - Frequency: 50-60 Hz
- **Output:**
 - Solid state (triac)
 - 1.5 amps @ 30 VAC
- **Dimensions:**
 - 2" X 2" X 1 1/4"

Replaces

N/A

Low Ambient Cutoff Switch

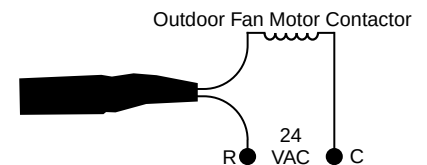
APPLICATIONS

The ICM SC045 and SC055 are low cost, easy to install, single setpoint temperature sensors that can be used as low ambient cutoff switches for condensor fan motors.

MODE OF OPERATION

The ICM SC045 and SC055 can be used as a low ambient cutoff switches for a condensor fan motor. When the ambient temperature drops to 45°F/55°F, the SC045 or SC055 will open the fan signal and turn the fan motor off. It will not allow the fan to turn back on until the temperature rises above 45°F-55°F.

WIRING DIAGRAM



ICM Control



Features and Applications

SC045

- Cutoff setpoint 45°F
- 2-wire installation

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temp. control range:**
 - 45°F (±5°F)

Replaces

N/A



SC055

- Cutoff setpoint 55°F
- 2-wire installation

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temp. control range:**
 - 55°F (±5°F)

N/A

Fixed Setpoint Thermostat

ICM Control



Features and Applications

FS40 Frost Sentry™

- Easy 2-wire installation
- Fixed setpoint at 40°F
- Special foam backing improves accuracy; helps eliminate "wall effect"
- Compatible with most standard electric heating units.
- Ideal for storage areas, garages, workshops and crawl spaces

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temp. control range:**
 - 40°F (±5°F)

Replaces

N/A

Compressor Protection Module

APPLICATION

The ICM221 is a low cost compressor protection module that monitors safety switch inputs and provides anti-short cycle protection.

MODE OF OPERATION

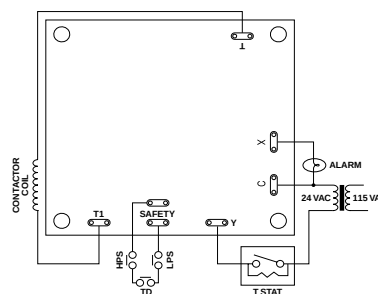
Upon a Y call from the thermostat, the compressor contactor is energized (T) after the selected delay on make time, given all safety switches are closed and the unit is not in the anti-short cycle period.

If a safety switch opens for longer than the 1-second interrogation, the compressor contactor is de-energized and the selected anti-short cycle time begins.

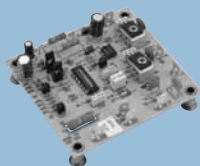
If three consecutive safety faults occur in a 90-minute period, the control will lock the compressor out and energize the alarm terminal (X). A lockout condition can only be reset by a loss of the Y signal from the thermostat.

Custom controls available. Consult factory for low pressure switch bypass, status LED and other custom options.

TIMING DIAGRAM



ICM Control



Features and Applications

ICM221

- Low cost compressor protection module
- Anti-short cycle/lockout control
- Safety switch monitoring (1-second interrogation)
- Alarm output during lockout
- 5-minute or 10-second ASC
- 3- or 6-second DOM
- Conformal coating for moisture protection

Specifications

- **Voltage:** 18-30 VAC
- **Frequency:** 50-60 Hz
- **Solid state (triac)**
- **1 amp @ 30 VAC**
- **Dimensions:** 3.25"L x 3"W x 1"H
- **Delay on make time:** 3- or 6-seconds (selectable)
- **Anti-short cycle time:** 10-seconds or 5-minutes (selectable)

Replaces

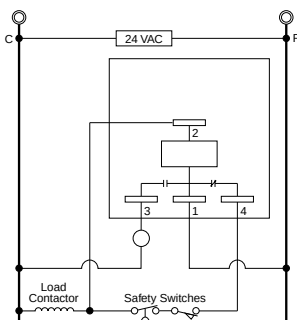
N/A

Lockout Protection

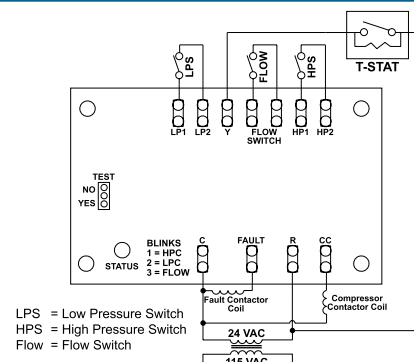
APPLICATION

ICM offers low cost lockout protection modules that monitor various switch inputs to help protect your compressor.

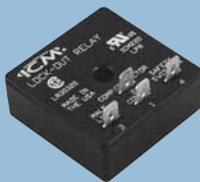
WIRING DIAGRAM - ICM220



WIRING DIAGRAM - ICM222



ICM Control



Features and Applications

ICM220

- UL 873 recognition as compressor controller
- Low cost lockout relay
- Helps eliminate nuisance lockouts typical of Series 84 and 93 impedance relays
- Ideal for use with safety/interlock switches
- Replaces impedance relays Series 84 and 93

Specifications

- **Voltage:** 18-30 VAC
- **Frequency:** 50-60 Hz
- **Power consumption:** 2 watts maximum @ lockout
- **Relay:** 1 form C
- **Contacts:** 2 amps @ 30 VAC resistive
- **Dimensions:** 2" x 2"

Replaces

- **Essex:** Impedance Relays Series 84 and 93

ICM222

- Low cost lockout protection module
- Anti-short cycle/lockout control
- Pressure/flow switch monitoring
- Alarm output during lockout
- 5-minute ASC delay (5-second test mode)
- LED fault codes for lockout status
- Test mode for reduced test time
- Conformal coating for moisture protection

Specifications

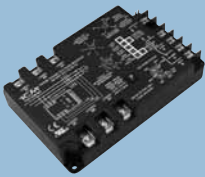
- **Voltage:** 18-30 VAC
- **Frequency:** 50-60 Hz
- **CC**
- **Type:** Solid state (Triac)
- **Rating:** 1 amp @ 30 VAC
- **Fault**
- **Type:** Relay (SPDT) N.O.
- **Rating:** 1 amp @ 30 VAC
- **Anti-short cycle time:** 5-minutes fixed $\pm 20\%$ (5-second test mode)
- **Dimensions:** 3.5" x 3.25" x 1"

N/A

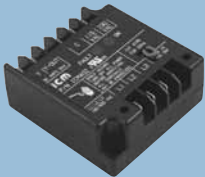
ICM's line voltage monitors continuously monitor incoming line voltage to provide superior motor protection from premature failure and damage due to voltage unbalance, high and low voltages, phase loss, phase reversal, faulty power, incorrect sequencing and/or rapid short cycling. Some models include LED indicators or LCD diagnostic displays to indicate the current system condition. Single phase surge protectors help protect your system against lightning, power surges and voltage surges.

3-PHASE LINE VOLTAGE MONITORS - Full Performance

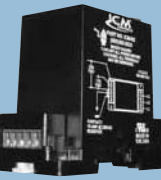
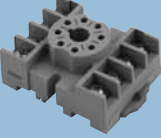
ICM's line voltage monitors were specifically designed to protect compressor motors and other 3-phase loads from premature failure or damage due to common voltage faults. They offer complete system protection by monitoring both the line (front) and load (back) side of the system including the power, motor and contactor lines. In addition, an integral "delay on break timer" guards against rapid short cycling at both the control circuit and the 3-phase lines. Compact and easy to install, the ICM400 and ICM450 provide highly reliable protection for your valuable equipment.

ICM Control	Features and Applications	Specifications	Replaces
	ICM400 - Lower cost, full performance version featuring bright LED indicators to display system faults - Monitors "front" and "back" sides of system - Universal voltage operation: 190-630 VAC - Knob-adjustable features and system set points - Reset mode: choice of auto or manual (lockout) - Built-in anti-short cycle protection - Protects against voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling	Voltage: 190-630 VAC Frequency: 50-60 Hz Voltage unbalance: Adjustable: 2-25% Control: 18-240 VAC Delay on break timer: .1-5 minutes Output: Relay: SPDT N.O.: 10 amps N.C.: 6 amps Dimensions: 6.5" x 4.25" x 1.5"	A-1: EAC-800, EAC-8000, EAC-8002 Diversified: AC-2020, AC-301, AC-302 Mars: 32512, 32515, 32516, 32517 Motorsaver: 455 SSAC: QLM/QLV Time Mark: 265 Wagner/DiversiTech: DTP-3, WPC-800
	ICM450 (ICM450S for Spanish) - Fully programmable with LCD diagnostic display - Easy to configure - simple push button setup - Easy to customize - set points, variables and features are fully adjustable and may be defined by the user while in control SETUP mode 25-fault memory storage, non-volatile - Independent high and low voltage settings ideal for dual voltage compressor applications - Identifies front and back side faults - Reset mode: choice of auto or manual - Protects against: voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling - Reliable, high temperature LCD to 167°F - Simultaneous voltage display, no scrolling - Line voltage programmable - Universal voltage operation: 190-630 VAC	Voltage: 190-630 VAC Frequency: 50-60 Hz Voltage unbalance: Adjustable: 2-25% Control: 18-240 VAC Delay on break timer: 0-10 minutes Output: Relay: SPDT N.O.: 10 amps N.C.: 6 amps Dimensions: 6.5" x 4.25" x 1.5"	A-1: EAC-800, EAC-8000, EAC-8002 Copeland: 085-0160-00 Diversified: AC-2020, AC-301, AC-302 Mars: PFM-2000 Motorsaver: 455 SSAC: QLM, QLV TimeMark: 265 Wagner/DiversiTech: DTP-3, WPC-800

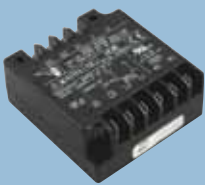
Phase Loss and Reversal Protection • Ultra Low Cost

ICM Control	Features and Applications	Specifications	Replaces
	ICM401 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 - For open-board model order ICM403	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 18-30 VAC Output: Relay: SPST N.O.: 10 amps Dimensions: 3.25" x 3" x 1.25"	Supco: TPMP2 Mars: 32536
	ICM402 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 - For open board model order ICM404	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 115 or 208/240 VAC Output: Relay: SPST N.O.: 30 amps Dimensions: 3.25" x 3" x 1.25"	Supco: TPMP2 Mars: 32536

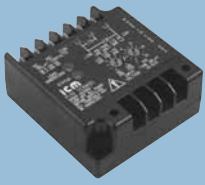
Phase Loss and Reversal Protection • Ultra Low Cost

ICM Control	Features and Applications	Specifications	Replaces
	ICM408 - Reliable 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % and high/low voltage - Bright LED indicators for ON and FAULT - High/low voltage cut-out: - High voltage cut-out setpoint: +12% - Low voltage cut-out setpoint: -12% - Highly reliable passive electronics - Power/phase loss detection: within 100 ms - User selectable unbalance voltage: 2 to 8% - Phase reversal detection: detects on power up - User selectable delay on make: .1 to 5 minutes 8-pin plug-in mount (base sold separately)	Voltage: 190-480 VAC Frequency: 50-60 Hz Adjustable DOB: .1-5 minutes Adjustable DOM: .1-5 minutes Heavy duty SPDT Relay output: N.O./N.C. contacts: 10 amps resistive @ 250 VAC Dimensions: 4" x 2.5" x 1.75"	Mars: 32532, 32534, 32540, 32541, 32542
	ICM409 - Reliable 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % and high/low voltage - Bright LED indicators for ON and FAULT - High/low voltage cut-out: - High voltage cut-out setpoint: +12% - Low voltage cut-out setpoint: -12% - Highly reliable passive electronics - Power/phase loss detection: within 100 ms - User selectable unbalance voltage: 2 to 8% - Phase reversal detection: detects on power up - User selectable delay on make: .1 to 5 minutes - DIN rail mount	Voltage: 190-480 VAC Frequency: 50-60 Hz Adjustable DOB: .1-5 minutes Adjustable DOM: Heavy duty SPDT Relay output: N.O./N.C. contacts: 10 amps resistive @ 250 VAC Dimensions: 4.25" x 3.5" x 2.375"	N/A
	ICM431 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage: 18-30 VAC - Highly reliable passive electronics - Patented: U.S. Patent No. 5,337,206 8-pin plug-in mount (base sold separately)	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 18-30 VAC Output: Relay: SPST N.O.: 10 amps Dimensions: 4" x 2.5" x 1.75"	N/A
	ICM432 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage input: 115, 208, 240 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 8-pin plug-in mount (base sold separately)	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 115 or 208/240 VAC Output: Relay: SPST N.O.: 20 amps Dimensions: 4" x 2.5" x 1.75"	N/A
	ICM461 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage: 18-30 VAC - Highly reliable passive electronics - Patented: U.S. Patent No. 5,337,206 - DIN rail mount	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 18-30 VAC Output: Relay: SPST N.O.: 10 amps Dimensions: 3.75" x 2" x 3.2"	N/A
	ICM462 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage: 115, 208, 240 VAC - Highly reliable passive electronics - Patented: U.S. Patent No. 5,337,206 - DIN rail mount	Voltage: 190-600 VAC Frequency: 50-60 Hz Control: 115 or 208/240 VAC Output: Relay: SPST N.O.: 30 amps Dimensions: 3.75" x 2" x 3.2"	N/A
	ACS-8/ACS-11 Relay Sockets - Relay socket 8-pin octal plug-in base - Locating key ensures proper orientation - Order ACS-11 for 11-pin base - For use with: ICM408, ICM410-427, ICM431, ICM432, ICM500-505 - Rated for 480 VAC	10 amps up to 480 VAC	Diversified: RB-08

3-Phase Temperature Monitor

ICM Control	Features and Applications	Specifications	Replaces
	ICM441 Protects Against: - Under voltage - Over temperature - Power interruptions - Rapid short cycling - Shorted temperature sensor - Open temperature sensor - Control duty, SPST relay layout - Anti-short cycle time delay, 4 minutes (nominal) 1-second manual bypass	Voltage: 120 or 208/240 VAC Frequency: 50-60 Hz Output: Relay: SPST N.O.: 6 amps resistive Dimensions: 3.25" x 3" x 1.25"	Bristol: 241680 Copeland: 071-0376-01, 071-0376-02, 071-0397-00, 071-0397-01, 071-0424-00, 071-0424-01, 071-9800-00, 071-9800-01 Mars: 37300, 37302, 37304, 37306, 37322 Texas Instruments: 15AA1600 B, 15AA1600 C, 15AA1603 B, 15AA1603 C, 31AA1600 E, 31AA1606 E

Single Phase Motor Protection

ICM Control	Features and Applications	Specifications	Replaces
	ICM491 - Low cost single phase motor protection - Built in anti-short cycle protection - Detects high/low voltage conditions - Helps prevent rapid system recycling - LED indicators: - Green for normal conditions - Red for fault - Heavy duty SPDT, isolated relay output - Interrogation delay prevents nuisance trips: 5 seconds	Voltage: 95-270 VAC Output: Relay: SPDT N.C./N.O.: 5 amps Time delay range: Adjustable 6-600 seconds Dimensions: 3.25" x 3" x 1.25"	A-1: EAC-401, EAC-402, EAC-403, EAC-404 Diversified: CV-100-RS, CV-200-RS15, CV-200-RS20 Wagner/DiversiTech: DSP-1
	ICM492 - Protects against over and under voltage, and rapid short cycling caused by transient faults and power interruptions - Easy-view, backlit digital display - RMS voltage monitoring - Adjustable voltage set point - Adjustable over voltage setting - Adjustable under voltage setting - Adjustable anti-short cycle time delay - Adjustable response time - Control mode 5-fault memory - Universal line voltage input - Heavy duty SPDT relay output - Universal control voltage input (for integrating a thermostat)	User adjustable settings: Voltage set point: 80-300 VAC Anti-short cycle time delay: 0-720 sec. Over voltage setting: 5-25% Under voltage setting: 5-25% Control mode: On and Off Response time: 0.1-10 seconds Inputs: Line voltage: 80-300 VAC Frequency: 50-60 Hz Accuracy: ±2% Low power consumption: - Maximum 50 mA @ 120V - Maximum 100 mA @ 240V Control voltage: 24-240 VAC Output: Type: Dry relay contacts Form: SPDT Relay contact ratings: N.C. contacts: 10A resistive @ 277 VAC N.O. contacts: 10A resistive @ 277 VAC Mechanical: Case dimensions: 3"L x 3.2"W x 1.35"H Unit weight: 0.36 lbs.	Wagner/DiversiTech: DSP-1
	ICM515 - Easy installation - Low cost, high performance - Weatherproof housing - Rugged, reliable - Protects against: - Lightning power surges - Voltage surges from air conditioners, generators, motors	Service voltage: 120-240 VAC, single phase Max. surge current: 24,000 amps Max. energy dissipation: 240 Joules Installation point: - Electrical panel - Electrical disconnect AC protection modes: Line-line, line-ground Dimensions: 1.75" x 1.62" x 0.75"	Ditek: DTK-120-240CM Supco: SCM
	ICM516 - Type 2 surge protective device - UL Listed - Easy installation - Low cost, high performance - Rugged, reliable - Protects against: - Lightning power surges - Voltage surges from air conditioners, generators, motors - Limited Lifetime Protection Warranty	Service voltage: 120-240 VAC, single phase Max. surge current: 100,000 amps Max. energy dissipation: 1,020 Joules Installation point: - Electrical panel - Electrical disconnect AC protection modes: Line-line, line-ground Dimensions: 2.75" x 4.75" x 1.75"	Supco: SCM Plus, SCM150

Series UMSR

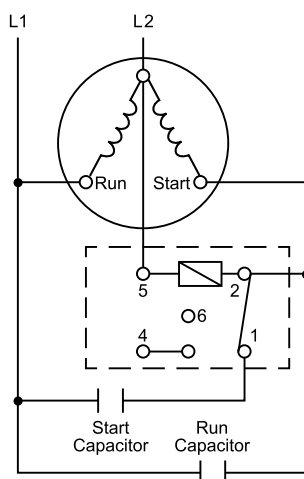
APPLICATIONS

ICM's new Universal Motor Starting Relay incorporates patented differential voltage sensing and a non-positional mounting configuration to offer a single replacement for all standard potential relays.

Great way to reduce inventory. Ideal for A/C, commercial refrigeration, heat pump or any single-phase motor application up to 10 HP.

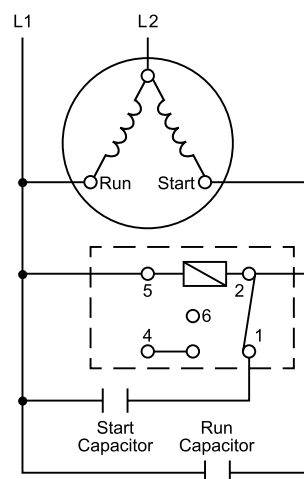
WIRING DIAGRAM

Standard Wiring Diagram



Terminal 4 = Common Park Terminal
Terminal 6 = Common Park Terminal

Alternative Reduced Arcing Configuration



Terminal 4 = Common Park Terminal
Terminal 6 = Common Park Terminal

ICM Control



Features and Applications

UMSR-50

- Replacement for all standard potential relays
- Patented differential voltage sensing
- No user-adjustments required
- Non-positional mounting configuration
- 50A switching capabilities
- Universal mounting bracket for easy installation
- .250" quick connect termination
- Safety timer
- Also available with 30A switching capabilities (UMSR-30)

Specifications

General:

- **Input:**
 - **Voltage Rating:** 110-270 VAC, Single Phase
 - **Maximum Voltage Contact Rating:** 502 VAC (absolute)
- **Motor power rating:** Up to 10 HP
- **Operating Position:** Non-positional
- **Safety Time Out:** Approximately 1-second per 100 microfares
- **Consumption:** 5VA max.
- **Insulation:** Class B (130°C); Conforms to IEC 1000- standards (6kV impulse / 6kV contact)
- **Life Expectancy (minimum operations):**
 - **Mechanical:** 1×10^6
 - **Electrical:** 1×10^6 at 16A 400 VAC
 5×10^5 at 35A 400 VAC (break only)
 5×10^5 at 50A 400 VAC (break only)

Contacts:

- **Contact rating:** 50A (break only), 400 VAC $\cos \phi = 0.7$ to 0.8

Replaces

- All standard potential relays
- **Supco:** APR5 SUPR

All features and specifications subject to change without notice.

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams

Comfort Control Center

Applications

The award-winning CC750 Comfort Control Center works with your existing single-phase A/C or Heat Pump to more effectively remove moisture from the air. Provides enhanced comfort and improved indoor air quality with greater system efficiencies. Generates warmer air discharge temps for winter months in heat pump applications.

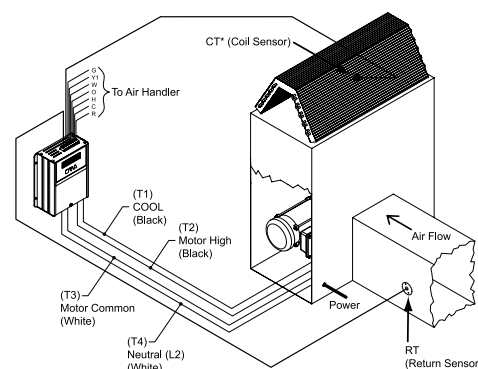
Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor. Simple, menu driven programming gives the installer the ability to fine-tune key parameters that establish a latent and sensible cooling ratio best suited for the unique conditions of each installation. Also provides warmer air discharge temperatures for heat pumps during winter months.



Mode of Operation

A variable frequency/variable voltage fan motor speed control, the CC750 varies the blower speed based on the evaporator and return air temperature. A field adjustable temperature differential between the evaporator and the return air duct is maintained by controlling blower speed. A simple to use, menu driven program lets the installer establish a latent and sensible cooling ratio to best meet the specific environmental conditions unique to each install.

Wiring Diagram



ICM Control



Features and Applications

ICM CC750

- Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor
- Field programmable
- Varies the air flow based on delta T
- Mounts in or out of air handler
- Motor lubrication algorithm
- Inverter bypass
- Over-current protection
- Standard thermostat interface
- Available in 115 VAC (CC750-115) and 230 VAC (CC750-230)
- Replaces: N/A

Specifications

Ratings

- **Nominal 24 VAC inputs ($\pm 25\%$):** 18-30 VAC RMS absolute
- **Power consumption:** 10 watts typical

Line Ratings: Nominal, 115 VAC RMS

- **Inverter operation:** 95-135 VAC RMS absolute
- **Bypass operation:** 85-145 VAC RMS absolute
- **Maximum inverter amps:** 10 amps RMS
- **Maximum bypass amps:** 20 amps (60 Hz)

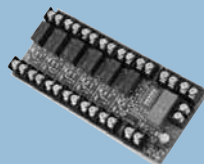
Line Ratings: Nominal 208-230 VAC RMS

- **Inverter operation:** 180-264 VAC RMS absolute
- **Bypass operation:** 170-264 VAC RMS absolute
- **Maximum inverter amps:** 8.5 amps RMS
- **Maximum bypass amps:** 10 amps (60 Hz)

Fan Safety Alarm

Fan Safety Alarm

ICM Control



Features and Applications

ICM6100

- Fan safety alarm circuit
- Outputs provided ensure that a DDC controller can determine the root cause of a shutdown.
- Dip switch to bypass inputs not in use.
- Ideal for Air Handling Unit safety-shutdown.
- 2.75" mounting track provided

Specifications

Input: 24 VAC; 50-60 Hz (4A max)

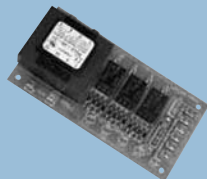
- Output**
- **Relay outputs (6):** 2A @ 24 VAC/DC per output
 - **Master relay 24 VAC (2):** 1.5A @ 24 VAC per output
 - **Master relay dry contacts:** 10A @ 250 VAC
 - **Alarm status:** **Green LED ON** = Activated
 - **Red LED ON** = Not Activated

Replaces: Functional Devices: RIBMNLB-6

Fan Coil Relay Control Boards

Fan Coil Relay Controls

ICM Control



Features and Applications

ICM6200

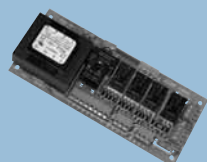
- Ability to operate line voltage 3-speed fan motor with low voltage controls
- Compatible with 4-pipe, 2 pipe, HP, auto-changeover
- 20 VA 24 VAC power supply
- Suitable for 1/8 HP motors
- 1/4" Quick connect terminals
- Mounts with standard 3" track

Specifications

- Input**
- **Transformer Primary:** 115 VAC; 50-60 Hz
 - **Fan Inputs HI, MED, LOW:** nominal 17mA @ 24 VAC
 - **Heat & Cool:** 1.5A @ 24 VAC

- Output**
- **Transformer Secondary:** 24 VAC; 20 VA
 - **Relay outputs H, M, L:** 1/8HP @ 115 VAC, 10A @ 240 VAC resistive max.
 - **Heat & Cool Valves:** 1.5A @ 24 VAC

Replaces: Honeywell W6380B, BSR/Xactone FC/H-2



ICM6201

- Ability to operate line voltage 3-speed fan motor with low voltage controls
- Ability to operate line voltage electric heating element with low voltage controls
- Compatible with 4-pipe, 2 pipe, aquastat autochangeover, and heat pump
- 20 VA 24 VAC power supply
- Suitable for 1/8 HP motors
- Screw terminal receptacles
- Mounts with standard 3" track

- Input**
- **Transformer Primary (L1 & L2):** 115 VAC; 50-60 Hz
 - **HI, MED, LOW (8, 7, 6):** Nominal 17 mA @ 24 VAC
 - **Inputs 1, 2, 3, 4, 5, Aqua Heat & Cool:** 1.5A @ 24 VAC

- Output**
- **Transformer Secondary:** 24 VAC; 20 VA
 - **Relay Outputs H, M, L:** 1/8 HP @ 115 VAC, 10A @ 240 VAC resistive
 - **HTR Output:** 30A @ 240 VAC resistive
 - **Heat & Cool Valves:** 1.5A @ 24 VAC

Replaces: Honeywell W6380B, BSR/Xactone FC/H-1

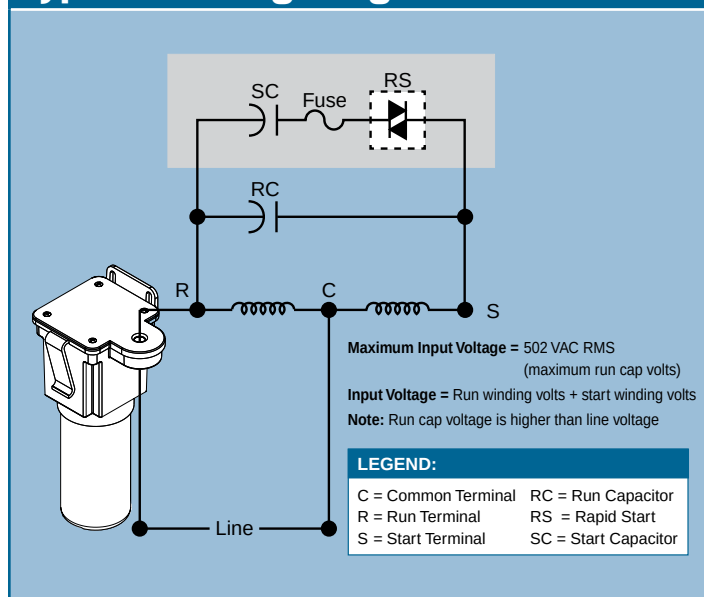
ICM803 and ICM805 - The Current Advantage

"EXTENDS THE LIFE OF YOUR COMPRESSOR"

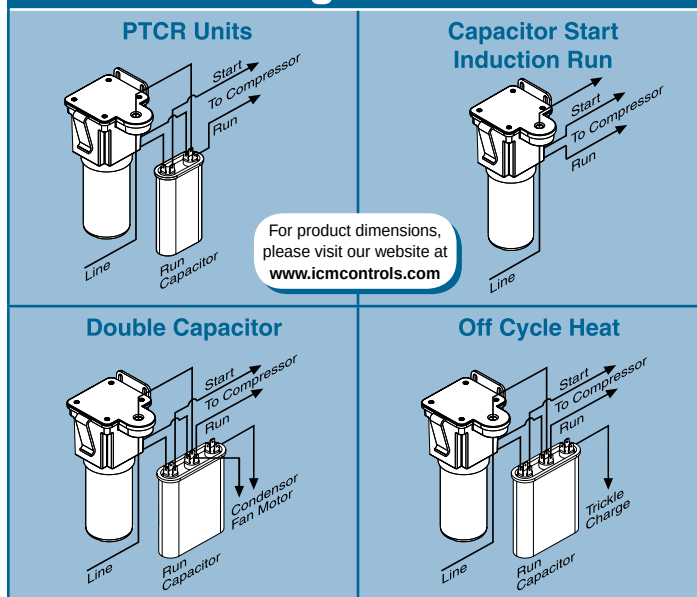
By monitoring the compressor current upon start-up, RapidStart® is able to engage the hard start capacitor for precisely the correct amount of time, ensuring maximum starting torque without the risk of supplying too much current into the start winding. A timed safety circuit is provided in the event the motor fails to start within 2 seconds. Current sensing hard start precisely increases starting torque.

ICM Control	Features and Applications	Specifications	Replaces
	ICM803 - Operates from 95-288 VAC - Patented current sensing circuitry - Easy to install, 2 wires - Solid-state circuitry - Boosts starting torque - Disengages upon start - Recycles instantly (less than 1 second) - Fuse protection - Not affected by voltage or current fluctuations - Not affected by ambient temperatures	Voltage: 95-288 VAC Maximum input voltage: 502 VAC Operating temperature range: -40°C to +65°C Capacitor: 88-106 Mfd. 330 V Range: 1/12 to 3 HP applications	5-2-1: CSR-V1 Kickstart: T05, KS8 Supco: SPP-8, SPP-8E
	ICM805 - Operates from 95-288 VAC - Patented current sensing circuitry - Easy to install, 2 wires - Solid-state circuitry - Boosts starting torque - Disengages upon start - Recycles instantly (less than 1 second) - Fuse protection - Not affected by voltage or current fluctuations - Not affected by ambient temperatures	Voltage: 95-288 VAC Maximum input voltage: 502 VAC Operating temperature range: -40°C to +65°C Capacitor: 145-175 Mfd. 330 V Range: 1/12 to 5 HP applications	5-2-1: CSR-U1, CSR-U2, CSR-U3 Kickstart: KS1 Supco: SPP-8, SPP-8E

Typical Wiring Diagram



Assorted Configurations



ICM855 and ICM856 • PTCR Hard Start Capacitors

ICM Controls	Features and Applications	Specifications	Replaces
	ICM855 - Increases torque up to 300% - Positive Temperature Coefficient (PTC) technology - Easy to install - Low cost motor starting device	Voltage: 115-288 VAC Capacitor: 43-52 Mfd, 330 V Range: 1/2 to 10 HP (up to 1 1/2 HP recommended)	A-1: WXS-5 MARS: 32701, 35701 Supco: SPP-5 Wagner/DiversiTech: DST-5
	ICM856 - Increases torque up to 500% - Positive Temperature Coefficient (PTC) technology - Easy to install - Low cost motor starting device	Voltage: 115-288 VAC Capacitor: 88-106 Mfd, 330 V Range: 1/2 to 10 HP (2-5 HP recommended)	A-1: WXS-6 MARS: 32702, 35702 Supco: SPP-6 Wagner/DiversiTech: DST-6

ICM857, ICM858 and ICM859 • Relay, Overload and Start Capacitors

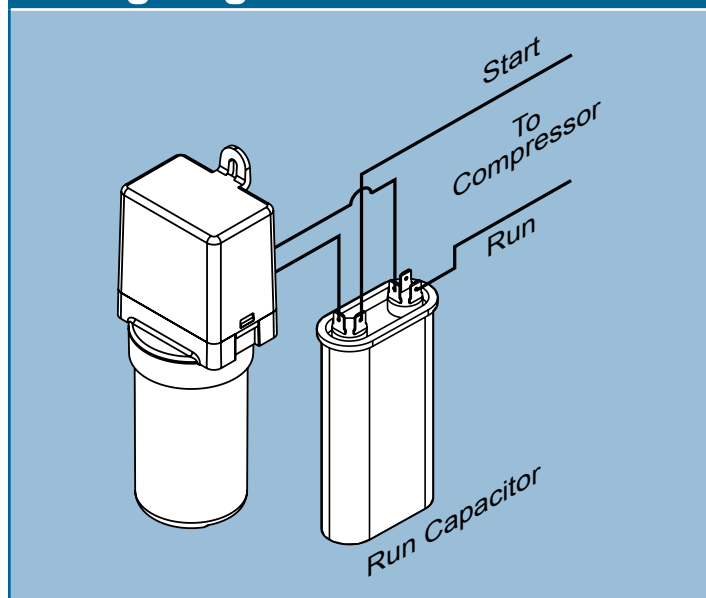
ICM Controls	Features and Applications	Specifications	Replaces
	ICM857 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 12A 145-175 mfd - For 1/12 to 1/5 HP motors	Operating Voltage: 120V Maximum Voltage: 180V Maximum Current: 12A Retry Time: Within 90 seconds	Mars: 32481 Supco: RCO810
	ICM858 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 22A 243-292 mfd - For 1/4 to 1/3 HP motors	Operating Voltage: 120V Maximum Voltage: 180V Maximum Current: 12A Retry Time: Within 90 seconds	Mars: 32741 Supco: RCO410
	ICM859 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 12A 145-175 mfd - For 1/3 to 1/2 HP motors	Operating Voltage: 120V Maximum Voltage: 180V Maximum Current: 12A Retry Time: Within 90 seconds	Supco: RCO210

ICM860 - Voltage Sensing

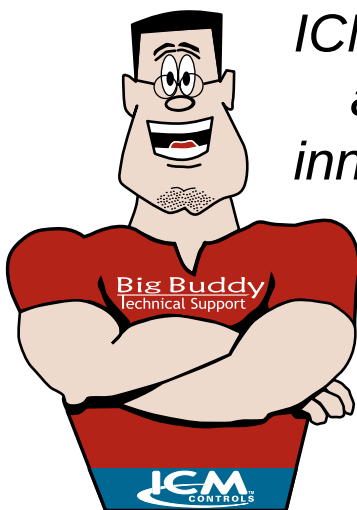
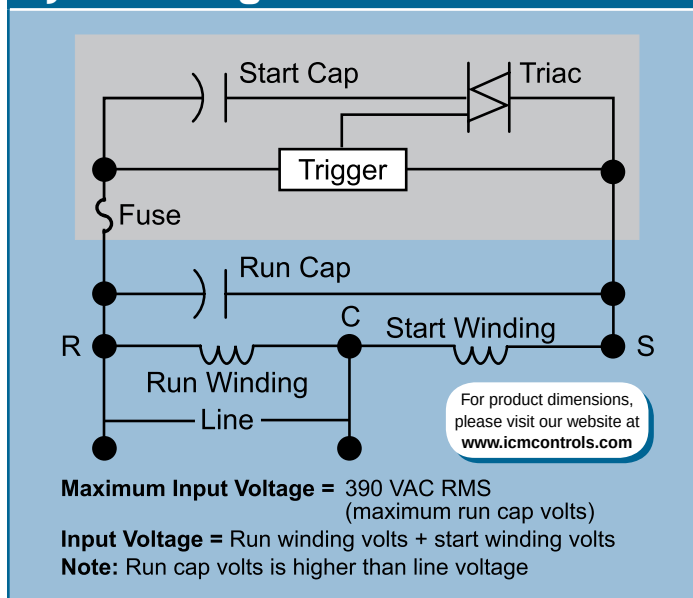
ICM's differential voltage sensing products employ patented circuitry which monitors differential compressor auxiliary voltage, determines the state of the motor and precisely engages and disengages the start capacitor. A timed safety circuit is provided in the event the motor fails to start within 2 seconds.

ICM Controls	Features and Applications	Specifications	Replaces
	ICM860 - Increases starting torque up to 500% - Ensures precise starts - Reduces inventory - Not affected by ambient temperature - Recycles Instantly (less than one second) - Dual voltage operation: either 115 or 240 VAC motors - Fuse protection - Not affected by voltage or current fluctuations	Voltage: 90-277 VAC Maximum input voltage: 390 VAC Operating temperature range: -40°C to +65°C Capacitor: 88-106 Mfd. 330 V Range: 1/12 to 5 HP applications	Supco: SPP-5E, SPP-6E

Wiring Diagram



System Diagram



ICM Controls has been delivering award-winning ingenuity and innovation to the HVACR industry for nearly 30-years!

RapidStart® “Current Sensing” Comparison	HARD START			SOFT START	
	Differential Current Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 & HS650 MARS 32701 & 32702 ROBERTSHAW 600-052 & 600-057 SUPCO SPP5, SPP6, SPP7 WATSCO WSX-5, WSX-6	SUPCO SPP8 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Current Differential Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Not Required	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	YES	NO	NO
Timing Circuit Device	NO	NO	NO	YES	YES
Safety Cut-Off	YES	NO	NO	NO	NO
Affected by Ambient Temperature	NO	NO	NO	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Fuse Protected	YES	NO	NO	NO	NO

RapidStart® “Voltage Sensing” Comparison	HARD START			SOFT START	
	Differential Current Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 and HS650 MARS 32701 and 32702 ROBERTSHAW 600-052 and 600-057 SUPCO SPP5, SPP6 and SPP7 WATSCO WSX-5 and WSX-6	SUPCO SPP5 SPP6 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Differential Voltage Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Not Required	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	NO	NO	NO
Approved by Compressor Manufacturers	YES	YES	YES	NO	NO
Approved by Equipment Manufacturers	YES	YES	YES	NO	NO
Used by OEM Manufacturers	YES	NO	NO	NO	NO
Safety Cut-Off	YES	NO	NO	NO	NO
True Power Factor Starting	Not Required	YES	YES	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Timing Circuit Device	NO	NO	NO	YES	YES
Affected by Ambient Temperature	NO	NO	NO	YES	YES

Fan Blower • Off Delay on Break

APPLICATIONS

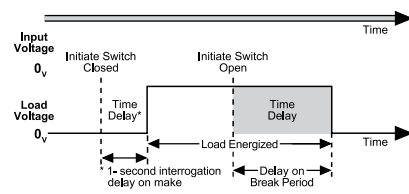
"OFF delay on break"

Controls the circulating fan in heat pump, air conditioning and forced air systems. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

MODE OF OPERATION

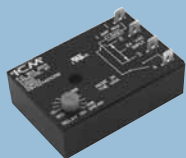
Power must be applied before and during the time delay period. When the initiate contact closes, the load energizes and remains energized as long as the initiate contact is closed. The time delay begins when the initiate contact opens. At the end of the time delay period, the load is turned off. If the initiate contact recloses during the time delay period the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero. A one-second interrogation delay is provided to avoid nuisance trips due to thermostat bounce or tampering.

TIMING DIAGRAM



OFF Delay Timing Purges Residual Air

ICM Control



ICM253

- UL 873 recognition for compressor applications
- Post-purge fan delay timer
- OFF delay purges ducts of residual air at the end of the heating/cooling cycle
- Interrogation delay eliminates nuisance trips due to thermostat bounce/tampering

Features and Applications

Specifications

- **Voltage:** 18-30 VAC
- 1 amp maximum
- 40 mA minimum
- 10 amp inrush
- **Adjustable time delay:**
- 12-390 seconds
- **Dimensions:** 2" x 3"

Replaces

- **Field Controls:** 46144700
- **Gemline:** 1C216
- **Mars:** 32393

Fan Blower • Dual On/Off

APPLICATIONS

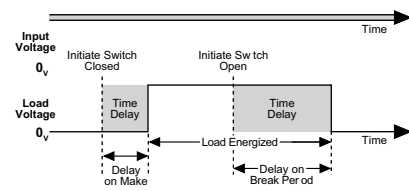
"ON delay on make" and "OFF delay on break"

Controls the circulating fan in heat pump, air conditioning and forced air systems. Delay on make lets air reach proper level prior to turning on the fan. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

MODE OF OPERATION

Power must be applied before and during the time delay period. When the initiate contact closes, the delay on make period begins. The load then energizes and remains energized as long as the initiate contact is closed. The delay on break period begins when the initiate contact opens. At the end of the time delay, the load is turned off. If the initiate contact recloses during the time delay, the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero.

TIMING DIAGRAM



ICM Control



ICM251

- Drives fan directly
- High power, relay output
- Dual function fan delay timer
- Controls the circulating fan in heat pump, A/C and forced air systems
- OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle
- ON delay allows air to reach the proper comfort level prior to energizing the fan
- 115 and 230 VAC are also available, please consult factory

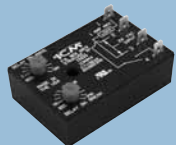
Features and Applications

Specifications

- **Voltage:** 18-30 VAC
- **Output:**
- **N.O.:** 20 amps @ 240 VAC
- **N.C.:** 10 amps @ 240 VAC
- **Time delays adjustable:**
- **ON:** 1-180 seconds
- **OFF:** 12-390 seconds
- **Dimensions:** 2" x 3"

Replaces

- **Mars:** 32377
- 32378
- 32379



ICM254

- Dual function fan delay timer
- Controls the circulating fan in heat pump, A/C and forced air systems
- OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle
- ON delay allows air to reach the proper comfort level prior to energizing the fan

Features and Applications

Specifications

- **Voltage:** 18-30 VAC
- 1 amp maximum
- 40 mA minimum
- 10 amp inrush
- **Time delays adjustable:**
- **ON:** 1-180 seconds
- **OFF:** 12-390 seconds
- **Dimensions:** 2" x 3"

Replaces

- **Honeywell:** S876A1016
- **Watco:** PSTD-000-005W
- PSTD-000-060W



ICM255

- Low cost open board design
- High power, relay output
- Dual function fan delay timer
- Controls the circulating fan in heat pump, A/C and forced air systems
- OFF delay purges ducts of residual air
- ON delay allows air to reach the proper comfort level prior to energizing the fan

Features and Applications

Specifications

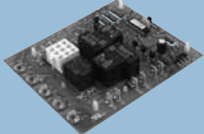
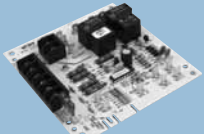
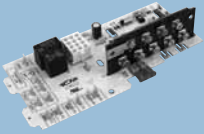
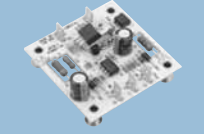
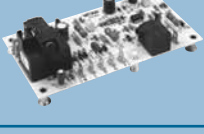
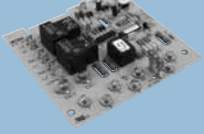
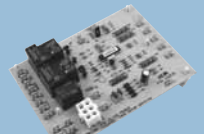
- **Voltage:** 18-30 VAC
- **N.O.:** 20 amps @ 240 VAC
- **N.C.:** 20 amps @ 240 VAC
- **Time delays fixed:**
- **ON:** 1 second
- **OFF:** 60 seconds
- **Dimensions:** 2.5" x 2.5"

Replaces

- **A-1:** 5893
- **Bard:** 8201-056
- **Mars:** 32574
- **Rheem:** 42-22515-01
- 42-22515-02
- 42-22515-03
- **Snyder General/ICP:** 1395336

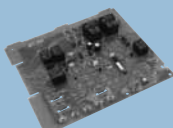
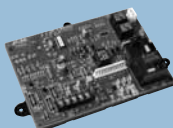
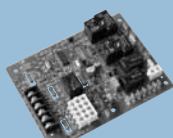
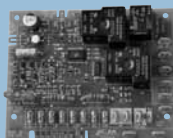
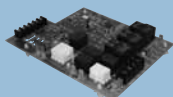
ICM offers low cost, form, fit and functional replacement fan blower controls for many popular OEM models. Our fan blower controls monitor safety switches, provide on and off delays and control the speed of the fan in heat pumps, and in air conditioning and forced air systems according to the logic of the original board.

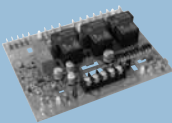
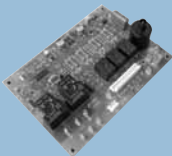
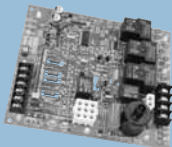
Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	ICM270 - Dual function fan delay timer - Controls the circulating fan in heat pump, A/C and forced air systems - OFF delay purges ducts of residual air - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC Contact ratings: Heat/cool speed N.O.: 20 amps @ 240 VAC N.C.: 10 amps @ 240 VAC Time delays: Blower ON delay: 30 seconds Blower OFF delay: 90, 120, 150, 180 seconds	Evcon: 2702-300 Rheem: 47-22827-01 47-22827-81/82/83 47-22828-01/02 Robertshaw: 695-003
	ICM271 - Reliable solid state fan blower control - Specifically designed to replace popular gas furnace centers - Pin selectable blower delays - High power, relay output - Dual function fan delay timer - Controls the circulating fan in HP, A/C and forced air systems - OFF delay purges ducts of residual air - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC Contact ratings: N.O.: 20 amps N.C.: 10 amps Time delays: Heat ON delay: 75 seconds Heat OFF delay: 105 seconds Cool OFF delay: 90 seconds	Carrier: 302075-3 - CES0110017 - CES0110018 - HH84AA010 - HH84AA011 - HH84AA012 - HH84AA013/020 - P771-7002 Robertshaw: 695-100
	ICM272 - Cooling control module with fan delay - Integral low voltage terminal board with field thermostat wiring - Electronic air cleaner output - High power, relay output - DC output for fan relays and 1st stage of electric heater control - Interlock circuitry prevents 2nd & 3rd stage electric heat energization without proper fan operation	Voltage: 18-30 VAC Contact ratings: N.O.: 20 amps N.C.: 10 amps Time delay: Blower OFF delay: 60 seconds	Carrier: - HK61GA001 - HK61GA003 Texas Instruments: 2FD-1
	ICM273 - Solid state output - Silent operation, "no clicking" - Controls the circulating fan in HP, A/C and forced air systems - OFF delay purges ducts of residual air	Voltage: 18-30 VAC Output: 2 amps @ 240 VAC Time delay: Blower OFF delay: 60 seconds	EMI: 240000-969
	ICM274 - Microprocessor-based fan blower control - Built in humidity relay - Manually adjustable post-purge off delay from 60-240 seconds - Electronic air cleaner output	Voltage: 18-30 VAC Outputs: Y out: 1.5 amps Fan: 2 amps Elec. heat relay: 30 amps @ 240 VAC Time delay: Blower OFF delay: 60 seconds	EMI: 240-1764
	ICM275 - Heavy duty heat relay - Purges ducts of residual air - Integral short cycle protection	Voltage: 18-30 VAC Contact ratings: High: 20 amps @ 240 VAC Low: 10 amps @ 240 VAC Time delays: Heat ON delay: 60 seconds Heat OFF delay: 60-240 seconds Cool OFF delay: 90 seconds	Carrier: CES0110019, HH84AA001, HH84AA003, HH84AA005, HH84AA009, HH84AA014, HH84AA015, HH84AA021 Robertshaw: 695-101
	ICM276 - Microprocessor-based fan blower - Inducer fan outputs - Controls the circulation fan in gas/heat and A/C systems - OFF delay purges ducts of residual air	Voltage: 18-30 VAC Outputs: Fan: 20 amps @ 240 VAC Inducer fan: 2 amps Time delays: Heat ON delay: 60 seconds Heat OFF delay: 120, 150, 180 seconds Cool OFF delay: 60 seconds	Carrier: HK51GA003 Rheem: 47-23619-02 47-23619-03 Robertshaw: 457-23619-03 - RS100-833-02
	ICM277 - Microprocessor-based fan blower - For circulating fan in heat pump, A/C and forced air systems	Voltage: 18-30 VAC Contact ratings: N.O.: 20 amps N.C.: 10 amps Time delays: Blower ON: 7 seconds Blower OFF: 65 seconds	Goodman: - B1370735S - PCBFM131S

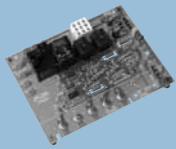
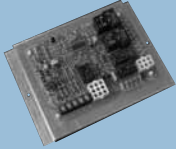
ICM offers low cost, form, fit and functional replacement furnace controls for many popular OEM models. Our furnace controls come standard with many safety features including 100% gas shutoff in case of ignition failure.

Furnace Control Modules

ICM Control	Features and Applications	Specifications	Replaces
	ICM280 - Microprocessor-based fan blower - Inducer fan outputs - Hot surface ignitor output - Flame sensor input - Gas valve output - Status LED for fault codes - Twinning compatible with another ICM280 board	Voltage: Line (98-132 VAC) @ 60 Hz Fan: 2 HP @ 240 VAC Inducer motor: 7 amps @ 250 VAC Gas valve: 1 amps @ 24 VAC Ignitor: 5 amps @ 120 VAC	Goodman: B1809906 B1809908, B1809910 B1809913, B1809913S UTEC: 1012-933D Texas Instruments: 41F-5 White-Rodgers: 50T35-730, 50T35-743
	ICM281 - Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner - Microprocessor-based - Designed for 100% gas shutoff in case of ignition failure - Model selection of 80+ and 90+ furnace operation - Reverse polarity protection - Secondary brownout voltage protection - Heating and cooling fan functions in response to standard thermostat - Provides diagnostic LEDs to aid in troubleshooting - Twinning compatible with another ICM281 board	Voltage: Line (98-132 VAC) @ 60 Hz Operating temperature: -40°C to 176°F Ignitor: 5A @ 120 VAC Cool blower: 30A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 240 VAC Inducer motor: 4A, FLA-8.0 LRA @ 120 VAC Gas valve: 1.5A @ 30 VAC	Carrier: CES0110057-00 CES0110057-01 CES0110057-02
	ICM282A - Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner - Microprocessor-based - Designed for 100% gas shutoff in case of ignition failure - Reverse polarity protection - Secondary brownout voltage protection - Heating and cooling fan functions in response to standard thermostat - Provides diagnostic LEDs to aid in troubleshooting - Includes adapter harness (not shown) - Twinning compatible with another ICM282A board	Voltage: Line (98-132 VAC) @ 60 Hz Operating temperature: -40°C to 176°F Ignitor: 5A @ 120 VAC Cool blower: 30A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 240 VAC Inducer motor: 4A, FLA-8.0 LRA @ 120 VAC Gas valve: 1.5A @ 30 VAC	Carrier: HK42FZ004, HK42FZ007 HK42FZ008 HK42FZ009 HK42FZ011 HK42FZ013 HK42FZ016 325878-751
	ICM284 - Microprocessor based - Controls vent motor, blower control, hot surface ignitor and gas valve - Monitors timing, trial for ignition, flame sensing and lockout - Diagnostic LEDs to aid in testing/troubleshooting	Line voltage: 208 VAC @ 60 Hz Ignitor: 5A resistive @ 208 VAC Heat blower: 10A, .5 HP, 250VAC Cool blower: 30A, 2HP, 240 VAC Inducer Motor: 4A, 120 VAC Gas Valve: 4A @ 24 VAC Compressor: 5A resistive @ 24 VAC	York: SI-03101280000
	ICM286 - Microprocessor-based precision - Controls inducer and blower fan motors, hot surface ignitor, and gas valve - Monitors timing, trial for ignition, flame sensing, pressure and limit switches, and lockout - Designed for 100% gas shutoff in case of ignition failure - Reverse polarity protection - Twinning compatible with another ICM286 control board - Compatible with LP or natural gas - Diagnostic LED to aid in testing/troubleshooting	Trial for Ignition: 7 seconds Pre-purge Time: 15 seconds Ignitor Warm Up Time: 7 seconds Post-Purge Time: 15 seconds Total Trials for Ignition: 3 (auto reset after 1 hour) Heat Blower On: 30 seconds Heat Blower Off: Selectable 90/120/150/180 seconds Fan (Heat) On/Off Delay: 1 second Cool On: 5 seconds Cool Off: 45 seconds	Goodman: PCBBF112S, B18099-26S, 0130F00005S
	ICM287 - Microprocessor based - Controls inducer and blower control, - Monitors timing and gas valve - Diagnostic LEDs to aid in testing/troubleshooting	Line voltage: 120 VAC @ 60 Hz Control voltage: 24 VAC @ 60 Hz Heat blower: 10A, 120 VAC Cool blower: 30A, 120 VAC Inducer blower: 30A, 120 VAC	Goodman: B18099-04
	ICM288 - Microprocessor-based precision - Monitors pressure, roll-out and limit switches - Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor. - Reverse polarity detection - Twinning compatible with another ICM288 board - Diagnostic LEDs to aid in testing/troubleshooting	Voltage Range: Line (98-132 VAC) @ 60Hz Ignitor: 5A, 120 VAC Cool Blower: 10A, 2HP, 240 VAC Heat: 5A, ½ HP, 250 VAC Inducer Blower: 4A, 120 VAC Gas Valve: 1A, 24 VAC Humidifier Motor: 0.5A, 24 VAC Electronic Air Cleaner: 1A, 120 VAC	Rheem: 62-24084-82

Furnace Control Modules			
ICM Control	Features and Applications	Specifications	Replaces
	ICM289 - Controls inducer fan motor, blower fan and monitors limit switches - Microprocessor based design - Functions with all 24 VAC thermostats	Voltage Range: Line (98-132 VAC) @ 60 Hz Cool blower: 20A @ 120 VAC Heat blower: 20A @ 120 VAC Inducer motor: 5A @ 120 VAC Cool blower On Delay: 1 second Cool blower Off Delay: 1 second Heat blower On Delay: 45 seconds Heat blower Off Delay: 90, 150, 210, 270 sec.	Lennox: Replaces all BCC1, BCC2 and BCC3 circuit boards, including 48K98 and 45K48.
	ICM291 - Direct Spark Ignition (DSI) control board - Microprocessor-based - Controls combustion, blower and indoor motors; spark ignitor and the gas valve - Monitors timing, trial for ignition, flame sensing and lockout 100% lockout safety feature - Compatible with LP or Natural Gas - Status LED for fault codes to aid in troubleshooting	Control voltage: 24 VAC (18-30 VAC), 60 Hz Line voltage: 208/230 VAC, 60 Hz Power cons: 0.3A plus gas valve current @ 24 VAC Operating temp: -40°C (-40°F) to 75°C (176°F) Timing Pre-purge: 45 seconds Trial for Ignition: 5+2 seconds Retry period: Every 20 seconds for 15 minutes Lockout: manual reset Post-purge: 45 seconds Inputs Power: RT and C Thermostat interface: R, W and G Safety switches: RS, LS, and CS Combustion motor Hall Effect sensor Flame sensing Outputs Spark Gas Valve: GV Combustion motor: CM Blower motor: BM Indoor fan motor: IFO LED indicators Red LED: Steady ON- normal operation Flashing – fault codes	Carrier: LH33WP003/3A
	ICM292 - Direct Spark Ignition (DSI) control board - Microprocessor-based - Controls Induced Draft and indoor blower motors; humidifier output, spark ignitor and gas valve - Monitors timing, trial for ignition, flame sensing and lockout 100% lockout safety feature - Compatible with LP or Natural Gas - Status LEDs for fault codes to aid in troubleshooting	Control voltage: 24 VAC (18-30 VAC), 60 Hz Line voltage: 115 VAC, 60 Hz Power cons: 0.3A plus gas valve current at 24 VAC Operating temp: -40°C (-40°F) to 75°C (176°F) Timing Pre-purge: 30 seconds Trial for ignition: 7 seconds Retries: 2 groups of 2, 30 seconds delay within the group and 3 minutes delay between groups Lockout: 1 hour Post-purge: 90, 120, 160 and 180 seconds Inputs Power: 24 VAC and COM Thermostat interface: R, W, Y and G System switches: Vent Pressure and Limit switches (Main and Over-temperature switches in series) Flame Sensing Heat blower OFF delay: SW1 toggle switch Outputs Spark: SE Gas Valve: GV Inducer draft motor: IDM Electric Air Cleaner: EAC Humidifier relay: HUM Heat/Cool relay: H/C Blower motor: FAN, COOL and HEAT speeds LED indicators Power, green LED: PWR Status, green LED: OK Flame status, yellow LED: FLAME	Rheem: 62-24140-04
	ICM2801 - Controls vent motor, blower control, hot surface ignitor and gas valve - Monitors timing, trial for ignition, flame sensing and lockout - Microprocessor-based - Reverse polarity protection 100% lockout safety feature - Compatible with LP or Natural Gas - Twinning compatible with another ICM2801 control - Status LED for fault codes to aid in troubleshooting	Line voltage: 98-132 VAC @ 60 Hz Ignitor: 5A, 120 VAC Cool blower: 10A, 2 HP, 240 VAC Heat: 5A, ½ HP, 250 VAC Inducer blower: 4A, 120 VAC Gas valve: 1A, 24 VAC	York/Evcon: 7990-319P

Furnace Control Modules

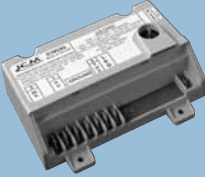
ICM Control	Features and Applications	Specifications	Replaces
	ICM2804 - Hot Surface Ignition (HSI) control board - Microprocessor-based - Controls vent motor and blower control - Monitors limit switch, pressure switch and gas valve 100% lockout safety feature - Compatible with LP or Natural Gas - Status LED for fault codes to aid in troubleshooting	ENVIRONMENT Ambient Temperature - Operating: -40°F to 176°F - Storage: -40°F to 185°F Humidity: 5% to 95% R.H. (non-condensing) @ +55°F Vibration: 13.8Hz @ 0.2 Gs for one hour in each orthogonal axis ELECTRICAL Voltage Range: Line (98-132 VAC) @ 60Hz Cool Blower: 20A, 2 HP, 240 VAC Heat: 10A, 240 VAC Inducer Motor: 4A FLA, 8A LRA @ 120 VAC TIMING Inducer Pre-Purge Time: 1 second Heat Blower On Delay: 45 seconds Heat Blower Off Delays: 120 or 180 seconds Cool Blower On Delay: 1 seconds Cool Blower Off Delay: 1 seconds	Carrier: CES0110074-00 and CES0110074-01 Note: This board functions identically as the CES0110074-00 and the CES0110074-01. It is a replacement of the CES0110074-01. When replacing the CES0110074-00 some quick connectors have to be changed or added. EAC-1 and EAC-2 must have 1/4" connectors. COM, SEC-1 and SEC-2 must have 3/16" connectors.
	ICM2805A - Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor - Monitors timing, trial for ignition, flame sensing, lockout, plus pressure, rollout and limit switches. - Microprocessor-based precision - Twinning compatible with another ICM2805 furnace control - Diagnostic LEDs aid in testing and troubleshooting	Voltage Range: Line (98 to 132 VAC) @ 60Hz Ignitor: 5A, 120 VAC Cool Blower: 10A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 250 VAC Inducer Blower: 4A, 120 VAC Gas Valve: 1A, 24 VAC Humidifier Motor: 0.5A, 24 VAC Electronic Air Cleaner: 1A, 120 VA	Nordyne 903106-Kit (for use with G3, G4, G5, G6, M2 and M3 furnace modules)

ICM Controls offers the most complete line of HVAC replacement heating controls. For the most current models, visit us on the web at www.icmcontrols.com

Gas Ignition Controls

Gas Ignition Controls

ICM Control	Features and Applications	Specifications	Replaces
	ICM283 - Hot Surface Ignition (HSI) Module - Single/Dual rod sensing capabilities - For gas fired furnaces, boilers and other heating appliances - Switch selectable lockout times, ignition trials - Works with both Natural & LP gas systems - Diagnostic LED to aid in troubleshooting	Input voltage: 120 & 24 VAC, 60 Hz - HSI: 120V, 5A maximum - Valve: 24V, 2A maximum - Total: 24V Load = 0.4 + valve load Pre-purge time: 32 seconds Trial time: 4 or 7 seconds (switch selectable) Ignition trials to lockout: 1 or 3 (switch selectable) Flame sense: Single rod or dual rod Gas type: Natural or LP	Honeywell: S8910U-1000 Robertshaw: HS780 White Rodgers: 50E47, 50F47
	ICM290A - Universal intermittent pilot gas ignition control - Provides ignition sequence, flame monitoring and safety shutoff for single/dual rod intermittent pilot control applications - For gas fired furnaces, boilers and other heating appliances - Switch selectable pre-purge and ignition trial times with permanent lock - Works with or without vent damper connected - Works with both Natural & LP gas systems	Control voltage: Line 24V (18-30 VAC), 50-60 Hz Anticipator setting: 0.3A plus valve load @ 24 VAC Trial for ignition: 15 or 90 seconds (switch selectable) LEDs: Green status LED provides system status and error codes Yellow flame LED indicates flame presence and flame strength Operating temperatures: Min. ambient temperature rating of -40°F (-40°C) and max. of 176°F (75°C) Relative humidity: 0% to 95% non-condensing	Honeywell: S8610U3009 (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)

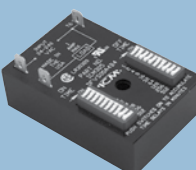
	ICM293 - Intermittent Pilot Gas Ignition Control Module - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based - Monitors timing, trial for ignition, flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or Natural Gas - Status LED for fault codes to aid in troubleshooting	Control Voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator Setting: 0.2A plus valve load @ 24 VAC Prepurge: 15 seconds Trial for Ignition: 85 seconds Lockout: 60 minutes Flame Failure Response Time: 0.5 seconds Status LED: See product label for error codes Operating Temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 165°F (74°C) Relative Humidity: 0% to 95% non-condensing	Lennox: 30W33 ignition control Robertshaw: 735L (18G91) or 745 (95H04) ignition controls Johnson Controls: G776 (63K2401, 41K8701, 69J3601) ignition controls
	ICM294 - Intermittent Pilot Gas Ignition Control Module - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based - Monitors timing, trial for ignition, rollout switch flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or Natural Gas	Control Voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator Setting: 0.2A plus valve load @ 24 VAC Prepurge: None Trial for Ignition: 85 seconds Flame Failure Response Time: 0.5 seconds Retry: None Operating Temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 160°F (71°C) Relative Humidity: 0% to 95% non-condensing	Johnson Controls: G770RJA-1 York: 025-27762-700 and comparable ignition controls
	ICM295 - Spark Ignition Control Module - Microprocessor based - For use with intermittent pilot boilers, furnaces and other heating appliances - Continuous spark until pilot flame established - Push-on, high tension quick connect terminals - Compatible with LP or Natural Gas	Control Voltage: Line 24 VAC (18-30 VAC) @ 50/60Hz Prepurge: 0 or 10 seconds (system dependent) Retries: Continuous Operating Temperature: -40°F to 176°F (-40°C to 75°C) Relative Humidity: 0% to 95% non-condensing Spark Frequency: 15Hz for 90 seconds, 10Hz thereafter	Carrier: LH33WZ510
	ICM296 - Spark Ignition Control Module - Microprocessor based - For use with intermittent pilot boilers, furnaces and other heating appliances 100% safety lockout - Compatible with LP or Natural Gas	Control Voltage: Line 24 VAC (18-30 VAC) @ 50/60Hz Prepurge: None Lockout: 5-6 minutes Retries: None Operating Temperature: -40°F to 176°F (-40°C to 75°C) Relative Humidity: 0% to 95% non-condensing Relay Contact Rating: 1 amp @ 24 VAC Trail for Ignition: 90 seconds Flame Failure Response Time: 0.8 sec. max. Spark Frequency: 60 Hz	Carrier: LH33WZ512A
	ICM2901 - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based precision - Monitors timing, trial for ignition, rollout switch, flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or Natural Gas	Control Voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator Setting: 0.3A plus valve load @ 24 VAC Prepurge: None Trial for Ignition: 85 seconds Flame Failure Response Time: 0.5 seconds Retry: None Operating Temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 160°F (71°C) Relative Humidity: 0% to 95% non-condensing	ICM: 294 Johnson Controls: G770RJA-1 York: 025-27762-700 and comparable ignition controls.
	ICM2902 - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based precision - Monitors timing, trial for ignition, flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or Natural Gas - Status LED for fault codes to aid in troubleshooting	Control Voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator Setting: 0.3A plus valve load @ 24 VAC Prepurge: 15 seconds Trial for Ignition: 60 minutes Lockout: 2 seconds Flame Failure Response Time: 0.5 seconds Status LED: See product label for error codes Operating Temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 160°F (71°C) Relative Humidity: 0% to 95% non-condensing	ICM: 293 Johnson Controls: G776 (63K2401, 41K8701, 69J3601) ignition controls Lennox: 30W33 ignition control, Robertshaw: 735L (18G91) or 745 (95H04) ignition controls

Intermittent Ignition

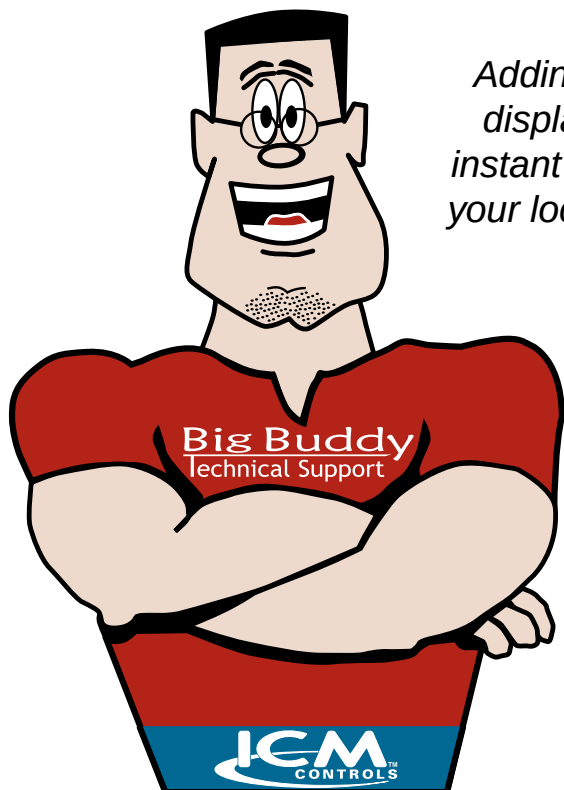
ICM Controls	Application		
	ICM's 1500 Series Intermittent Ignition Oil Primary Controls come standard with patented energy transfer technology that ensures the fuel valve and pump will only be energized if the control is functioning properly. Features a solid state flame sensing circuit, LED to indicate system lockout, an enclosed safety switch and an external reset button. Form, fit and functional replacement for popular competitive models.		
	Ordering Info	Safety Timing	Replaces
	ICM1501	15 seconds	Honeywell: R8184G4066, R8184G1161, R8184G1294
	ICM1502	30 seconds	Honeywell: R8184G4074, R8184G1179, R8184G1302, R8184G4033
	ICM1503	45 seconds	Carlin: 48245 Honeywell: R8184G4009, R8184G1138, R8184G1427, R8184G4025 Tempstar/Heil: 1147017 White-Rodgers: 668-401

Duty Cycle Timers

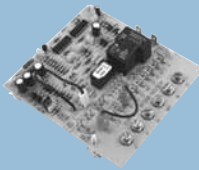
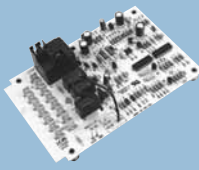
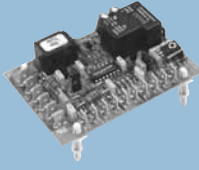
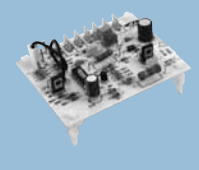
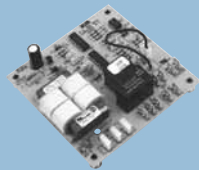
Duty Cycle Timers – Ideal for Defrost Applications

ICM Control	Features and Applications	Specifications	Replaces
	ICM305 (minutes), ICM306 (seconds) - Reliable duty cycle timer ideally suited for defrost applications - Suitable for process equipment or applications requiring intermittent delays - Switch-settable time delays - Digital timing accuracy - Reliable solid state output - Epoxy-encapsulated for greater reliability - On time starts at power up - SERIES: ICM305: Time delay in minutes ICM306: Time delay in seconds	Voltage: 18-240 VAC 1 amp 10 amp inrush Time delay: ICM305 Switch-settable from: 1-1,023 minutes in 1-minute intervals Time delay: ICM306 Switch-settable from: 1-1,023 seconds in 1-second intervals Dimensions: 2" x 3"	N/A

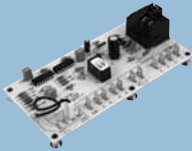
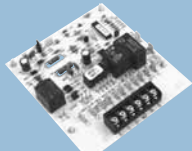
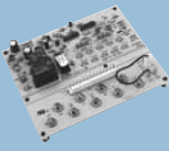
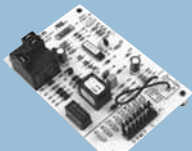
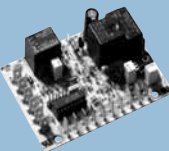
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Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	ICM300 - Replacement for OEM Type 621 - Low cost, time and temperature defrost - HOLD input tracks compressor run times - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x - Stable pin post construction	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: - Relay, SPST - N.O.: 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	Amana: C64301-1, C64310-1 Arcoaire: 32312-00, 3232140 Artesian: 10321-00 Coleman: 3030A374 Essex: 621-1 to 621-11, 621-310 Goodman: B12260-06 Heil Quaker: HQ1052757 Honeywell: ST74A1004, ST74A1020, ST74A1038 ICP: 1052757 Intertherm: 6208800 Lennox: 33G9501 Rheem: 47-21776-01 Robertshaw/Uni-Line: TD-10, DT2-1000 Snyder General: 1395-329 Steveco: 90-621 Therm-O-Disc: 26E-10 Weatherking (Addison): 840-4-5548 White-Rodgers: 90-621
	ICM301 - Low cost, time and temperature defrost - Sensor input for defrost terminate - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x - HOLD input accumulates actual compressor run times	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: - Type: Relay, SPST - N.O.: 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	Goettl: 305007 ICM: DFOSP24A2 Rheem: 47-21776-06
	ICM302 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x - Strip heat, reversing valve outputs - High power output (1 HP fan @ 240 VAC) - Integral short cycle protection	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: - Type: Relay, SPST - N.O.: 1 amp Anti-short cycle time: 5 minutes Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	ICM: DFORB-AB1004 Nordyne: 621301A, 621579B, 621579C, 917178
	ICM303 - Replacement for York 03101251000 - Time and temperature terminate - Integral short cycle protection - Pin-selectable intervals: 30/60/90 minutes - High/low pressure switch monitoring - High power, condenser relay output - Strip heat, reversing valve outputs	Voltage: 18-30 VAC Frequency: 50-60 Hz Relay output: 1 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 2 amps Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	Evcon: 9218-374 ICM: DFORF York: 03101251000, 9218-3741
	ICM304 - Replacement for ICP 1069364 - Sensor input for defrost terminate - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Y input tracks compressor run times - Integral short cycle protection - Cool active reversing valve	Voltage: 18-30 VAC Frequency: 50-60 Hz Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	ICP: 1069364
	ICM307 3-minute anti-short cycle protection - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - HOLD input tracks compressor run times - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: - Type: Relay, SPST - N.O.: 1 amp Anti-short cycle time: 3 minutes Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	Fast: 1093410 Lennox: 86G16 Ranco: DT2
	ICM315 - Solid state replacement for Ranco E-15 - Reliable thermistor-type sensor is less susceptible to breakage, easier to mount - Replaces faulty bulb-type sensors 10-minute fixed defrost time - Pin-Sel. interval times (30/45/90) - Test pins reduce test time by 256x - Stable pin post construction - Time and temperature terminate	Voltage: 24, 120, 240 VAC Frequency: 50-60 Hz Output: - Type: Relay, SPDT - N.O.: 20 amps - N.C.: 10 amps Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/45/90 min.	Avion: DFT100 Ranco: E-15

Form, Fit and Functional OEM Replacement Parts (continued)

ICM Control	Features and Applications	Specifications	Replaces
	ICM316 - Replacement for Trane 21C142827G01 - Low cost, time and temperature defrost - Time and temperature terminate - Pin-selectable intervals: 50/70/90 minutes - Test pins reduce test time by 256x - High power output (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 50/70/90 min.	Trane: 21C142827G01 CNT1152 CNT1642
	ICM317 - Anti-bang reversing valve feature - Select 0 or 3 minute anti-short cycle time - Time and temperature terminate 10-minute fixed defrost time - Test pins reduce test time by 256x - HOLD input tracks compressor run times	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: Type: Relay, SPST N.O.: 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 50/70/90 minutes	N/A
	ICM318 - Replacement for Goodman B1226008 - Low cost, time and temperature defrost - Time and temperature terminate - Pin-selectable intervals: 30/60/80 minutes - Test pins reduce test time by 256x - HOLD input tracks compressor run times - High power output (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/80 minutes	Goodman: B1226008 ICM: W1001-4
	ICM319 - Replacement for Nordyne: 624519A - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x - Recycle function melts frost on coils - Integral short cycle protection	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Anti-short cycle time: 5 minutes Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/90 minutes	ICM: DFORB24A2I300 Nordyne: 624519A
	ICM320 - Replacement for Carrier HK32FA006 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - Stable pin post construction	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC N.O.: 2 amps Form: SPST Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: HK25SZ359/9A HK32FA006
	ICM321 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - High power output, outdoor fan (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp) - Integral short cycle protection	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: N.O.: 20 amps N.C.: 10 amps Form: SPDT Anti-short cycle time: 5 minutes Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: CES0110063-00 CES0110063-01 CES0110063-02 CES0110063-02A CES0130024-01 150-83-6A
	ICM322 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - High power output, outdoor fan (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50-60 Hz Outdoor fan relay output: N.O.: 20 amps N.C.: 10 amps Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: CES0130024-00
	ICM323 - Same as ICM304 but for heat active reversing valve - Sensor input for defrost terminate - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Y input tracks compressor run times - Integral short cycle protection - Heat active reversing valve	Voltage: 18-30 VAC Frequency: 50-60 Hz Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/90 minutes	ICP: Heat active (B) RV

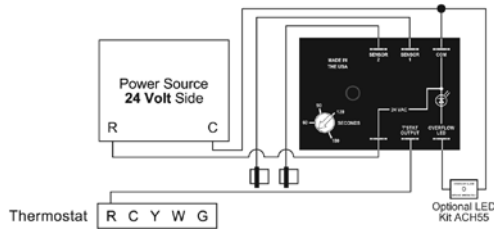
Prevent Overflowing of an Evaporator Condensation Pan

APPLICATION

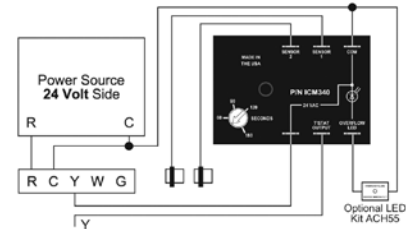
ICM's condensate control systems protect your cooling and refrigeration equipment by detecting and preventing overflows in the evaporator condensation pan due to slow and/or blocked drains or pump failure. These reliable, low cost controls come with fixed or adjustable delays to eliminate nuisance trips and lockouts. Use in conjunction with our audible alarm to quickly alert you to an ensuing condensate problem.

ICM340 Wiring Diagrams

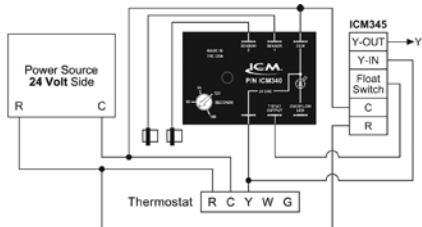
Wiring Diagram Breaking "R" Wire



Wiring Diagram Breaking "Y" Wire

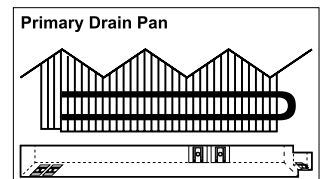


Wiring Diagram ICM340 with ICM345 Alarm



Application

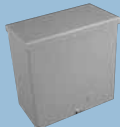
Sensors can be clipped to or pressed onto side, adhered to bottom of pan or inserted into drain pipe.



ICM Control	Features and Applications	Specifications	Replaces
	ICM340 - Low cost condensation control used to prevent overflowing of an evaporator drain pan - Two sensors for water detection - Adjustable delay before break time to prevent nuisance trips - Optional overflow LED kit	Voltage: 18-30 VAC Output: 24 VAC to thermostat/cooling control 24 VAC to optional overflow LED Output rating: 2 amps Delay before trip: 1-3 minutes Operating frequency: 50-60 Hz Maximum operating/storage relative humidity: 95% non-condensing Storage temperature: -40°C to +85°C Quick connects: (1/4 inch) for easy hookup Provides: Maximum protection against moisture and allows use in extreme environmental conditions	Water Guard: 401475
	ICM342 - Low cost condensation sensing control with an integral delay on make timer - Condensation sensing for overflow protection - Alarm output during lockout - Custom delay on make available (fixed or adjustable) - Conformal coating for moisture protection	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: Type: Relay N.O.: 10 amps @ 120 VAC N.C.: 10 amps @ 120 VAC Time delays: Delay on make: Custom delay available, fixed or adjustable Dimensions: 2.75" x 3.25"	N/A
	ICM345 - Low cost condensation sensing control with anti-short cycle delay and audible/visual condensation alarm - Condensation sensing for overflow protection - Audible and visual alarm when condensation is detected - ASC protection for compressor - Works in conjunction with any thermostat or existing condensation control - Elegant design	Voltage: 18-30 VAC Frequency: 50-60 Hz Output: Type: Relay N.O.: 1 amp @ 30 VAC Audible: Buzzer Visual: LED Indicator Time delays: Anti-short cycle: 5-minutes fixed Dimensions: 4 1/2" x 2 3/4" x 7/8"	N/A
	ACH55 - Optional overflow alarm LED kit - For use with ICM340 or ICM342 6 ft. cable length		N/A

Head Pressure/Low Ambient Fan Controls

ICM Control	Features and Applications	Specifications	Replaces
	ICM325HN (120-480 VAC) ICM325HNV (600 VAC) - Integral heat pump bypass circuitry allows electronic bypass of speed control - Eliminates overshoots common to on/off and pressure switch controls - Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, isolated 24 VAC supply - Controls up to 3 refrigerant circuits - Typical application: A/C and heat pumps	Input: Control: 18-30 VAC Frequency: 50-60 Hz, 1.8 VA max. Line input: 120-480 VAC (ICM325HN) 600 VAC (ICM325HNV) Output: Maximum: 10 amps Minimum: 100 mA Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 1.75"	ACT: FM2000 Hoffman: 800, 800A, 800AA 814-50 816-10 Ranco: E31Series
	ICM326HN (120 or 208/240 VAC) - Integral heat pump bypass circuitry allows electronic bypass of speed control - Built in transformer eliminates cost, reduces installation time and simplifies wiring - Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temperature bypass - Ideal for line voltage air conditioning and refrigeration	Input: Control: 120 or 208/240 VAC Frequency: 50-60 Hz Output: Maximum: 10 amps Minimum: 100 mA Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 2"	ACT: FM4000 Hoffman: 800, 800A, 800AA 814-50 816-10 Ranco: E31
	ICM326HM2 (120 or 240 VAC) - Integral heat pump bypass circuitry allows you to electronically bypass the speed control during heat pump operation - Solid state 10 amp load carrying capability - Single unit controls up to 3 refrigerant circuits - Hard start, low temperature cutoff, high temperature bypass - Integral transformer simplifies installation, reduces cost; direct setup from the line voltage - Ideal for "low ambient" conditions found in: - Supermarkets, frozen food storage - Computer rooms, cooling tower fans - Temperature/humidity-sensitive environments	Input/Output Voltage Input/output: 120 or 208/240 VAC Frequency: 50-60 Hz Power Consumption: 4 VA @ 24 VAC Output Type: Solid state Form: Triac Output current: Maximum: 10 amps Minimum: 100 mA Frequency: 50-60 Hz Voltage drop: 3.0 volts maximum Leakage current: 5 mA maximum Modulation: 80°F to 105°F	Mitsubishi: MU09NW, MUH09NW, MU12NN, MU15NN, MU17NN, MUM18NW, MUM30NN, MUM30NN2
	ICM327HN (480 VAC) - Integral heat pump bypass circuitry allows electronic bypass of speed control - Built in transformer eliminates cost, reduces installation time and simplifies wiring - Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temperature bypass - Ideal for line voltage air conditioning and refrigeration	Input: Control: 480 VAC Frequency: 50-60 Hz Output: Maximum: 10 amps Minimum: 100 mA Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 2"	ACT: FM4000 Hoffman: 800, 800A, 800AA 814-50 816-10 Ranco: E31
	ICM330 (120-480 VAC) - Pressure or temperature control - Integral heat pump bypass circuitry allows electronic bypass of speed control and eliminates overshoots common to on/off and pressure switch controls - Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions - One model covers 120-480 VAC - Hard start, low temperature bypass, isolated 24 VAC supply - Controls one refrigerant circuit - Typical application: A/C and heat pumps + DIN rail mount	Input: Control: 18-30 VAC Frequency: 50-60 Hz, 1.8 VA max. Line input: 120-480 VAC Output: Maximum: 4 amps Minimum: 100 mA Modulation: 70°F to 100°F 35-465 psi set point Opt. pressure transducer: ICM380 Dimensions: 4.5" x 3" x 1.75"	Johnson Controls: P66AAB/AAD
	ICM333 (120-600 VAC) - Support for dual temperature OR dual pressure probes 120-600 VAC - Integral heat pump bypass circuitry allows for electronic bypass of speed control - Dial temperature or pressure setpoint: 70°F to 140°F 35-465 psig - Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temp bypass - Ideal for line voltage air conditioning and refrigeration	Line voltage: 120, 208, 240, 277, 480 and 600 VAC Control voltage: 18-30 VAC Frequency: 50-60 Hz Operating temp.: -40°F to +176°F Probes: Temp.: Thermistor, 10K ohm at 77°F Pressure: ICM380 (ordered separately) Heat pump override: 24 VAC, N.C./N.O. Mounting: Surface mount us, (2) #8 screws	Johnson Controls: P66BAB/BAD

Head Pressure/Accessories			
ICM Control	Features and Applications	Specifications	Replaces
	ACC-OE-03 (Outdoor Enclosure) - Rugged steel construction - Easy to mount - Helps to protect controls from harsh environmental conditions such as temperature, shock, humidity and vibration - Ideal for use with ICM head pressure controls	NEMA 3R rated Dimensions: 4.25" x 6.25" x 6.25"	N/A
	ICM379 Probe Probe for use with ICM325HN, ICM326HN, ICM327HN and ICM330/ICM332/ICM333 head pressure controls with optional heat pump bypass feature	Length: 6' - 7" 70°F to 100°F (21°C to 38°C)	N/A
	ICM380 Optional pressure transducer for ICM330/ICM332/ICM333 single phase head pressure controls	Length: 72" 0-500 psi 1/4" SAE female flare with Schraeder deflator	N/A

Lead-Lag Controls

ICM lead lag controls offer true, dual-stage control to balance the operating run time between two redundant units. They feature built-in short cycle protection and status LED lights for at a glance diagnostics. Ideal for use in conjunction with telephone relay hubs/substations and/or remote, unmanned computer stations.

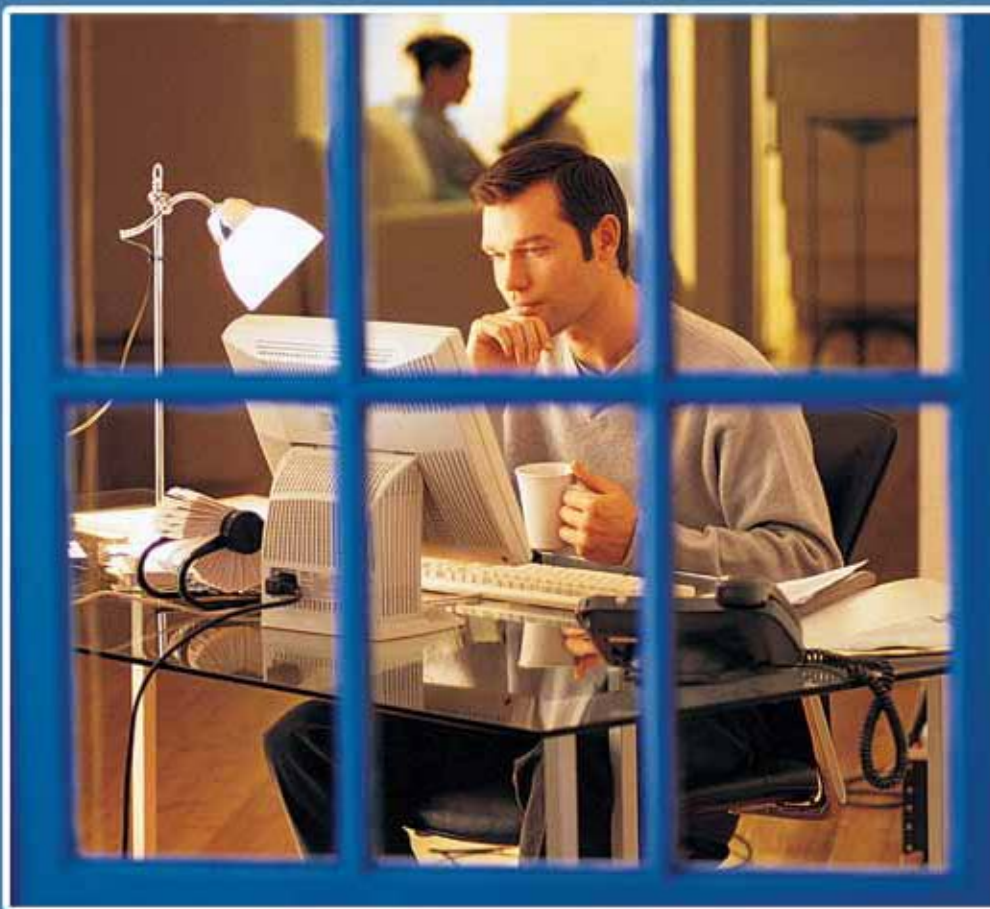
Reliable Long Life Switching			
ICM Control	Features and Applications	Specifications	Replaces
	ICM600 - True dual stage control - Built in thermostat with: - Adjustable setpoint - Adjustable deadband - Adjustable sequencer - Regulates 1 or 2 heating/cooling systems - Compact housing - Safety system halon contacts - Memory on power loss - Accelerated test mode	- Isolated inputs - Isolated solid state outputs - Built in anti-short cycle delays - Status LEDs - Advance state switch - Ideal for refrigeration applications, communication substations, water treatment plants anywhere redundant systems are used	N/A
	ICM602 - Low cost, open board lead lag control - Regulates two devices - Reliable, long life switching - Status LEDs - Ideal for refrigeration applications	Voltage: 18-30 VAC (24 VAC) Frequency: 50-60 Hz Maximum amps: 2 amps Power consumption: 2 watts maximum Dimensions: 3" x 3.5"	N/A

What makes ICM Controls' Head Pressures Controls Better?
 Check out our educational video online at www.icmcontrols.com/videolibrary

SimpleComfort® Thermostats

Programmable & non-programmable models

- *A model for every situation*
- *Sleek new footprint*
- *Large display*
- *Soft-touch controls*
- *Simple installation*
- *Available with custom logo*





Visit www.icmcontrols.com to find all
of our latest products, sell sheets and wiring diagrams

All features and specifications subject to change without notice.

Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266





Non-Programmable Thermostats

Heat Only Thermostats

- SC1600L:** 1-stage heat, battery, no fan output
- SC1600VL:** 1-stage heat, battery, no fan output, vertical
- SC1800L:** 1-stage heat, battery
- SC1800VL:** 1-stage heat, battery, vertical

Cool Only Thermostats

- SC1901L:** 1-stage cool, hardwired
- SC1901VL:** 1-stage cool, hardwired, vertical

Heat/Cool Thermostats

- SC1001:** 1-stage heat/cool, analog
- SC1001V:** 1-stage heat/cool, analog, vertical
- SC2000L:** 1-stage heat/cool, backlit display, battery
- SC2000VL:** 1-stage heat/cool, backlit display, battery, vertical
- SC2001L:** 1-stage heat/cool, backlit display, hardwired
- SC2001VL:** 1-stage heat/cool, backlit display, hardwired, vertical
- SC2010L:** 1-stage heat/cool, backlit display, dual powered
- SC4010:** 1-stage heat/cool, auto changeover, dual powered, PRO series
- SC4011:** 1-stage heat/cool, auto changeover, hardwired, PRO series

Fan Coil Thermostats

- SC700V:** 4-pipe heat/cool, 3-speed fan, auto changeover
- SC710V:** 4-pipe heat/cool, 3-speed fan, manual changeover
- SC900V:** 2 or 4-pipe, 3-speed fan, auto or manual changeover



Heat Pump Only Thermostats

- SC2201L:** 2-stage heat/1-stage cool, backlit display, hardwired
- SC2201VL:** 2-stage heat/1-stage cool, backlit display, hardwired, vertical
- SC2211L:** 3-stage heat/2-stage cool, backlit display, hardwired
- SC4211:** 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

- SC2311L:** 2-stage heat, 1-stage cool, hardwired
- SC4811:** 2-stage heat/cool, auto changeover, hardwired, PRO series
- SC4812:** 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series
- SC4813:** 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

SC5011



SC5211



SC5812



Programmable Thermostats

Heat/Cool Thermostats

SC3000L: 1-stage heat/cool, battery

SC3001L: 1-stage heat/cool, hardwired

SC3010L: 1-stage heat/cool, dual powered

SC5010: 1-stage heat/cool, auto changeover, dual powered, PRO series

SC5011: 1-stage heat/cool, auto changeover, hardwired, PRO series

Heat Pump Only Thermostats

SC3211L: 2-stage heat pump, hardwired,

SC5211: 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

SC5811: 2-stage heat/cool, auto changeover, hardwired, PRO series

SC5812: 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series

SC5813: 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

Garage Thermostats

FS40: Frost Sentry™, 40°F fixed, no display, hardwired

FS1500L: Frost Sentry™, 35°F-75°F, heat only, battery

FS1500VL: Frost Sentry™, 35°F-75°F, heat only, battery, vertical



Accessories

ACC-OD103: Outdoor sensor for SC4812 and SC5812 thermostats

ACC-RT103: Remote Sensor for PRO Series (except SC4010 and SC5010 series)

ACC-RT104: Remote Sensor for SC1000/SC2000/SC3000 series, PRO series dual power (SC4010, SC5010)

ACC-WIH21: SimpleSet™ Master-to-Target Cable PRO Series

ACC-WP03: Large, universal insulated wall plate

ACC-WP04: Small, universal insulated wall plate



Temporary Construction Thermostats

Temporary Construction Thermostats

SC045: Cool only, 45°F fixed

SC055: Cool only, 55°F fixed

SC060: Heat only, 60°F fixed



SC065: Heat only, 65°F fixed

SC070: Heat only, 70°F fixed

SC075: Cool only, 75°F fixed



Simple to install.
Simple to operate.
Simply dependable.



SimpleComfort® means simple control for year-round comfort and energy savings. These elegantly designed thermostats are extra rugged, highly reliable and accurate—ready for many years of worry-free operation. Simply perfect for residential or light commercial new construction or replacement. Easy, intuitive operation makes it simple to match temperature to any family's lifestyle. And with exclusive **SimpleComfort®** staging control, you can easily configure for optimum energy savings — or extra comfort.

SimpleComfort® thermostats feature:

- Vertical or horizontal mounting options (model dependent)
- Large display
- Precise temperature sensing
- Accuracy: $\pm 1^{\circ}\text{F}$
- Easy access terminal block
- Soft touch controls
- Adjustable temperature differential
- Zoning system compatible
- Integrated four-minute short-cycle protection
- Mercury-free, environmentally safe
- Status LEDs

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC1001 • Low cost, electronic, heat/cool thermostat • ICM patented Thermal Intrusion Barrier • Easy "slide-bar" temperature adjustment • Easy-view adjustment scale	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W, Y, O, B, G
	SC1001V • Low cost, electronic, heat/cool thermostat • ICM patented Thermal Intrusion Barrier • Easy "slide-bar" temperature adjustment • Easy-view adjustment scale • Vertical design for easy J-box installations	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W, Y, O, B, G
	SC1600L • Single-stage heat thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and hydronic systems	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, S1, S2
	SC1600VL • Single-stage heat thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and hydronic systems • Vertical design for easy J-box installations	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, S1, S2
	SC1800L • Heat only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and electric systems	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, G, S1, S2
	SC1800VL • Heat only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and electric systems • Vertical design for easy J-box installations	• Electrical Rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, G, S1, S2

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC1901L - Single-stage cool only thermostat - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Remote sensor compatible - Compatible with A/C systems	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, Y, G, S1, S2
	SC1901VL - Single-stage cool only thermostat - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Remote sensor compatible - Compatible with A/C systems - Vertical design for easy J-box installations	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, Y, G, S1, S2
	SC2000L - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Battery operated - Low battery indicator - Millivolt compatible - Manual changeover - Freeze protection - Zone compatible	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	RC, RH, W, Y, O, B, G
	SC2000VL - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Battery operated - Low battery indicator - Millivolt compatible - Manual changeover - Freeze protection - Zone compatible - Vertical design for easy J-box installations	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	RC, RH, W, Y, O, B, G
	SC2001L - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Manual changeover 4- or 5-wire compatible - Zone compatible	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W, Y, O, B, G
	SC2001VL - For single-stage heat/cool or single-stage heat - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Manual changeover 4- or 5-wire compatible - Zone compatible - Vertical design for easy J-box installations	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W, Y, O, B, G

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC2010L - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Dual powered - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration 4- or 5-wire compatible - Freeze protection - Keypad lockout - Selectable °F and °C	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W, Y, O, B, G
	SC2201L - For two-stage heat, one-stage cool heat pump only - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Manual changeover - Status LEDs	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, W2, O, B, G, E
	SC2201VL - For two-stage heat, one-stage cool heat pump only - ICM patented Thermal Intrusion Barrier - Large backlit LCD display - Hardwired - Manual changeover - Status LEDs - Vertical design for easy J-box installations	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, W2, O, B, G, E
	SC2211L - For three-stage heat, two-stage cool heat pump - ICM patented Thermal Intrusion Barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Zoning system compatible - Selectable °F and °C - Permanent memory - Status LED	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L, W3
	SC2311L - For two-stage heat, single-stage cool or single-stage heat pump with auxiliary heat - ICM patented Thermal Intrusion Barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Selectable °F and °C - Status LED	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y, W2, E, G

Standard Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC3000L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Battery powered - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Millivolt compatible - Freeze protection - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, O, B, G
	SC3001L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, C, O, B, G
	SC3010L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Dual powered - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration 4- or 5-wire compatible - Freeze protection - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W, Y, O, B, G
	SC3211L - For two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Vacation hold - Selectable °F or °C - Keypad lockout - Zoning system compatible - Soft-touch controls - Status LEDs - Selectable °F and °C	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L

Simple to install and operate enhanced quality features



Simplicity is in its name. ICM Controls **SimpleComfort® PRO** thermostats feature innovation and technology that delivers measurable value, simplifies installation and increases profitability. Blending the latest advances in thermostat technology with our new, patented **Thermal Intrusion Barrier** and patent-pending **SimpleSet™ Target Programming**, our **PRO** series thermostats set new industry standards exclusive to ICM Controls.

SimpleComfort® PRO thermostats feature:

- Flexible 7-day, 5-2-day and 5-1-1-day programming (5000 series models only)
- ICM patented **Thermal Intrusion Barrier**
- New ICM patent-pending **SimpleSet™ Target Programming** technology
- Large display with backlight
- Permanent memory
- Accuracy: $\pm 1^{\circ}\text{F}$, $\pm 0.5^{\circ}\text{C}$
- Manual or auto changeover
- Field adjustable calibration
- Adjustable maximum heat/minimum cool setpoints
- Extra comfort and energy savings modes between stages
- Adjustable temperature differential
- Integrated four-minute short-cycle protection
- Configurable remote sensor compatible
- Mercury-free, environmentally safe
- Selectable $^{\circ}\text{F}$ or $^{\circ}\text{C}$
- Keypad lockout
- Soft-touch controls
- Remote sensor compatible
- Status LEDs

PRO Series Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC4010 PRO - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large display with backlight - Dual powered (battery or hardwired) - Auto or Manual changeover - Permanent memory	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC4011 PRO - For single-stage heat/cool or single-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC4211 PRO - For two-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	SC4811 PRO - For two-stage heat/cool or two-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B Y1, W2, Y2, G, S1, S2
	SC4812 PRO - For three-stage heat/two-stage cool or two-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large backlit LCD display - Hardwired - Dual fuel compatible (requires ACC-OD103 outdoor sensor) - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	SC4813 PRO - For three-stage heat/two-stage cool or two-stage heat pump - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming (configuration mode only) - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

PRO Series Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC5010 PRO - For single-stage heat/cool and single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - Manual or auto changeover - ICM patent-pending SimpleSet™ Target Programming technology - Large display with backlight - Permanent memory - Dual powered (battery or hardwire)	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	RC, RH, C, W/O/B, Y, G, S1, S2
	SC5011 PRO - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	RC, RH, C, W/O/B, Y, G, S1, S2
	SC5211 PRO - For two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	SC5811 PRO - For two-stage heat/cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
	SC5812 PRO - For three-stage heat/two-stage cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Dual fuel compatible (requires ACC-OD103 outdoor sensor) - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	SC5813 PRO - For three-stage heat/two-stage cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented Thermal Intrusion Barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or Manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

Fan Coil Thermostats			
ICM Control	Features and Applications	Specifications	Terminations
	SC700LV/SC700V 4 pipe heat/cool 3 speed fan - Auto changeover 24 VAC (SC700LV) and 120-240 VAC (SC700V) versions available - Remote room temperature sensor (Optional: Order ACC-RT103) - Horizontal model available - UL Listed	Temperature Control Ranges: 45°F to 90°F, Accuracy: ±1°F 7°C to 32°C, Accuracy: ±.5°C System Configurations: - Fan coil thermostat, 4 pipe; 3 speed fan	N/A
	SC710LV/SC710V 4 pipe heat/cool 3 speed fan - Manual changeover 24 VAC (SC710LV) and 120-240 VAC (SC710V) versions available - Remote room temperature sensor (Optional: Order ACC-RT103) - Horizontal model available - UL Listed	Temperature Control Ranges: 45°F to 90°F, Accuracy: ±1°F 7°C to 32°C, Accuracy: ±.5°C System Configurations: - Fan coil thermostat, 4 pipe; 3 speed fan	N/A
	SC900V 2 or 4 pipe 3 speed fan - Pipe sensor for seasonal changeover 24 VAC and 120-240 VAC versions available - Manual or auto changeover - Selectable °F or °C - Occupancy sensing compatible - Valve purge timer - Remote room temperature sensor (Optional: Order ACC-RT103) - Large backlit display - Icons for fan and outputs - Permanent memory - Key pad lockout function - Maximum heat/minimum cool set point limits - Soft touch controls	Temperature Control Ranges: 45°F to 90°F, Accuracy: ±1°F 7°C to 32°C, Accuracy: ±.5°C System Configurations: - Fan coil thermostat 2 or 4 pipe; 3 speed fan	L, N, W/Y, Y/A, GL, GM, GH, RS, SC, SB, PS

Frost Sentry™ Garage Thermostats

When it comes to freezing cold temperatures, you can relax knowing that ICM's Frost Sentry™ is on guard. These low-cost thermostats are perfect for areas where protection from extreme cold is essential. Its special foam backing improves accuracy by providing separation from the wall at installation, while sealing up any unsightly wiring holes. This insulated backing helps eliminate the risk of "wall effect" (wall temperature causing false temperature readings). Ideal for storage areas, garages, workshops, crawl spaces and other critical areas.

Frost Sentry™ Garage Thermostats			
ICM Control	Features and Applications	Specifications	Terminations
	FS40 - Easy, two-wire installation - Fixed setpoint at 40°F - Special foam backing improves accuracy; helps eliminate "wall effect" - Sleek, rugged design - Compatible with most standard electric heating units - Ideal for storage areas, garages, workshops and crawl spaces	Input: 18-30 VAC Output: 2 amps max. Temperature setpoint: Fixed 40°F Accuracy: ±5°F	R, W, G
	FS1500L - Controls single stage heating systems - Millivolt, hydronic (water or steam) system, gas and electric systems - Battery operated - Backlit display - Mercury-free, environmentally safe - Remote sensor compatible (ACC-RT104) - Perfect for use with unit heaters	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 2 amp maximum total load - Easy access terminal block Temperature control ranges: 35°F to 75°F, Accuracy: ±1°F	R, W, G, S1, S2
	FS1500VL - Controls single stage heating systems - Millivolt, hydronic (water or steam) system, gas and electric systems - Battery operated - Backlit display - Mercury-free, environmentally safe - Remote sensor compatible (ACC-RT104) - Vertical design for easy J-box installation - Perfect for use with unit heaters	Electrical Rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 2 amp maximum total load - Easy access terminal block Temperature control ranges: 35°F to 75°F, Accuracy: ±1°F	R, W, G, S1, S2

The SC045 to SC075 series thermostats are low-cost, single setpoint thermostats intended for use as temporary devices to provide heating or cooling to allow drywall to dry during construction. They also can be used as a low ambient cutoff switch.



Features

- Two-wire installation
- Six fixed setpoint models to choose from: 45°F to 75°F
- Temporary use for dryout applications
- Can be used as a low ambient cutoff switch

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temperature Control Range:** 45°F to 75°F (±5°F)

Modes of Operation

• Heat/Cool Thermostat

The heating models will close when the ambient temperature drops below the respective setpoint and open when the ambient temperature is above the respective set point. The cooling models will close when the ambient temperature is above the respective setpoint and open when the ambient temperature drops below the respective set point.

• Low Ambient Cutoff: Condenser Fan Motor

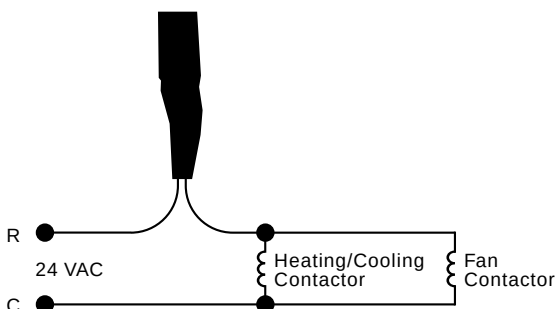
The SC045 and SC055 models can be used as a low ambient cutoff switch for a condenser fan motor. When the ambient temperature drops below the set point, the unit will open the fan signal and turn the fan motor off. It will not allow the fan to turn back on until the temperature rises above the set point.

• Low Ambient Cutoff: Compressor

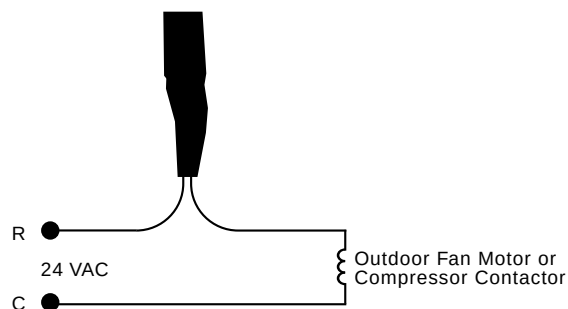
The SC045 and SC055 models can also be used as a low ambient cutoff switch for the compressor when wired in series with the Y circuit from the thermostat. When using with the compressor circuit, an anti-short cycle timer is recommended to prevent possible damage to the compressor from short cycling.

Wiring Diagrams

for Heating/Cooling Thermostats



for Low Ambient Cutoff



Ordering Information

Dryout Thermostats							
Part Number	SC045	SC055	SC060	SC065	SC070	SC075	SC085
Temperature Range*	45°F ±5°	55°F ±5°	60°F ±5°	65°F ±5°	70°F ±5°	75°F ±5°	85°F ±5°
2-Wire	✓	✓	✓	✓	✓	✓	✓
Heat			✓	✓	✓		
Cool	✓	✓				✓	✓

* Consult factory for other setpoints

Wall Plate

Need more wall coverage?
Choose an ICM insulated wall plate.

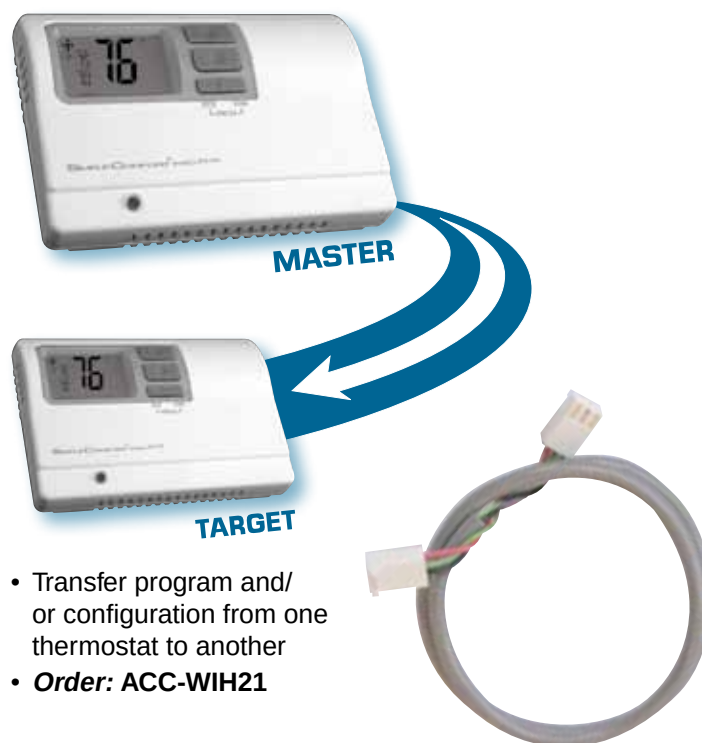


The fast, easy solution for hiding wall problems.

- Rugged, flexible construction
- Foam gasket prevents drafts through wall opening
- Hidden mounting screws (included) for a sleek appearance
- **Order: ACC-WP03** – 5 19/32" x 7 1/2"
- **Order: ACC-WP04** – 5 27/32" x 5 15/16"

SimpleSet™ Transfer Cable

Program each thermostat in seconds!!!



- Transfer program and/or configuration from one thermostat to another
- **Order: ACC-WIH21**

Remote Sensor

Need to monitor the temperature away from the thermostat?
Choose an ICM remote sensor.

The fast, easy solution for temperature sensing problems.

- For tamper-prone areas
- Poor air flow areas
- Troubled applications
- Foam gasket prevents drafts through wall opening
- Mounts to standard 2" x 4" outlet box
- **Order: ACC-RT103** – 2 3/4" x 4 1/2"
- **ACC-RT104** – 2 3/4" x 4 1/2"



Remote Sensor Compatible with the Following SimpleComfort® Thermostats

ACC-RT103

SC700V	SC710V	SC900V	SC4011	SC4211	SC4811	SC4812	SC4813	SC5011	SC5211	SC5811	SC5812	SC5813
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Remote Sensor Compatible with the Following SimpleComfort® and Frost Sentry™ Thermostats

ACC-RT104

SC1600L	SC1600VL	SC1800L	SC1800VL	SC1901L	SC1901VL	SC4010	SC5010	FS1500L	FS1500VL
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ICM offers a wide variety of selling tools, and displays.

Please contact your ICM Controls sales representative for more information.

Part No.	Description
ICM002	ICM Screwdriver, reversible Phillips head/flat head, with pocket clip
ICM26	Thermostat counter display (12-pack)
ICM450 Demo	3-Phase motor protection demonstration unit
Display-36PB	Standard merchandising display kit with 36" header and pegboard backer sheets
Display-48PB	Standard merchandising display kit with 48" header and pegboard backer sheets
Display-36SW	Standard merchandising display kit with 36" header and slatwall backer sheet
Display-48SW	Standard merchandising display kit with 48" header and slatwall backer sheet
Display-BigBuddy	Big Buddy freestanding product display unit
LIM139	Big Buddy display header
LIM134	Authorized ICM Controls Distributor window decal

Note: Some restrictions may apply. Please contact your ICM Controls sales representative for more information.

ICM26



LIM134



Display-36PB



Promote
ICM Controls
products with the use
of pegboard/slatwall
displays, or a
stand-a-lone display.

Call your local sales
representative for
available options!!

Display-BigBuddy



LIM139





SimpleComfort® Thermostats

Custom Logo Request Form

See complete instructions on
Page 56 of this catalog.

Fax to: **(315) 233-5282**

The complete **custom logo request form** is available on the home page of our web site at www.icmcontrols.com

On the **ICM home page**, below "What's New" click on "**Custom Logo Form.**"

When the document appears, either print it or save it to your desktop. **Note:** Adobe Acrobat Reader is required.

CONTRACTOR INFORMATION

Contractor Name _____

Contractor Address (City, State, Zip) _____

() Phone No. () Fax No.

Contact Person _____

Email Address _____

PLEASE FILL OUT COMPLETELY

WHOLESALE COMPANY INFORMATION

Wholesaler Name _____

Wholesaler Address (City, State, Zip) _____

() Phone No. () Fax No.

Contact Person _____

Email Address _____

CONTRACTOR NEW or EXISTING?

- ☐ New customer (logo sign off is mandatory)
- ☐ Existing customer logo **Changes to Logo **YES****
i.e.: Previous "L" number or Old part numbers • AG, AH, AJ
- **REQUIRES** New request form to be completed and submitted
 - Logo will be issued a new logo "L" number and changes made
 - **REQUIRES** contractor sign off to be faxed in with P/O
 - **Reference new logo "L" number on all future P/O's.**
- ***Reference to old part numbers = incorrect markings***
- ☐ Existing customer logo **Changes to Logo **NO****
i.e.: Previous "L" number or Old part numbers • AG, AH, AJ
- LOGO IS CORRECT - There are no changes
 - Original logo will be issued a new logo "L" number and faxed
 - No sign off is necessary. Logo will be on hold until P/O arrives

LOGO ORIGIN (check one)

- ☐ Accommodations have already been made to have a PROPERLY FORMATTED LOGO emailed to ICM. **See Logo Specifications**
- ☐ Please create a basic imprint for customer
- A basic imprint will be generated. Simply enter information below
 - From the "Sample Fonts Page," use font # for this logo
(Please print legibly and double check for accuracy)

LOGO PLACEMENT

Logo will be marked on thermostats in predetermined locations for existing thermostats. "SimpleComfort®" branding to remain.

Maximum logo size: **1.2"W x 0.7"H**

Line 1: _____

Line 2: _____

Line 3: _____

WHOLESALE'S RESPONSIBILITIES

1. Fax completed request form to ICM at number listed above
 - Attach copy of contractor's logo if logo is being emailed
 - If basic imprint is being created, enter information at left
 - **DO NOT include P/O with initial request form**
2. It is the wholesaler's responsibility to make initial contact and accommodations with the graphics company and to have a properly formatted logo submitted. Please forward the logo specifications listed below to graphics company.
3. When logo arrives, get contractor's approval & sign off.
4. **Fax to ICM:** signed off logo + P/O referencing logo number. ****Failure to reference a logo number on a P/O may result in plain thermostats being delivered. **Incorrect logo numbers on your P/O result in your customer receiving someone else's logo on their delivered thermostat shipment.**

GRAPHICS SPECIFICATIONS

PLEASE FORWARD TO GRAPHICS COMPANY

1. **Email logo to:** jkocik@icmcontrols.com
2. **Preferred Formats:** **Illustrator or FreeHand** with text converted to paths/curves. This prevents having to redraw the logo from scratch.
3. **Submissions must be: BLACK and WHITE ONLY • NO COLOR**
NO SHADING NO GREY-SCALE
4. Logo can be submitted in either JPG, TIF, or EPS formats
5. Logo scans must be **HI-RESolution • 600+ dpi • b/w only**
• Low resolution logos acquired from the web are not acceptable
6. **UNACCEPTABLE LOGO FORMATS:**
Graphics with color or gray scale, BMP formats, Corel Draw files, DAT files, DXF/CAD files, GIF files, Low-res scans, MSWord files, Page Maker files, PDFs, PowerPoint files, Quark Xpress files, Window Metafiles and Web images (72 dpi logos downloaded from web sites)

GRAPHICS COMPANY INFO

COMPANY NAME: _____

PHONE NUMBER: _____

CONTACT PERSON: _____

NOTE

If necessary, this page can be used as an actual request form. Simply complete this form, carefully remove this page from the catalog and fax it to 315.233.5282 or the fax number directly below.

NOTE

All features and specifications subject to change without notice.

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams



Phone
315.233.5266

Customer Service Fax
315.233.5282

Application Assistance
800.365.5525

Contractor can choose from any of the following fonts for their logo

Enter font number in provided box on request form (lower left).

FONT #	SAMPLE FONT
1	ICM CONTROLS Made in the USA 800-365-5525
2	ICM CONTROLS Made in the USA 800-365-5525
3	ICM CONTROLS Made in the USA 800-365-5525
4	ICM CONTROLS Made in the USA 800-365-5525
5	ICM CONTROLS Made in the USA 800-365-5525
6	ICM CONTROLS Made in the USA 800-365-5525
7	ICM CONTROLS Made in the USA 800-365-5525
8	ICM CONTROLS Made in the USA 800-365-5525
9	ICM CONTROLS Made in the USA 800-365-5525
10	ICM CONTROLS Made in the USA 800-365-5525
11	ICM CONTROLS Made in the USA 800-365-5525
12	ICM CONTROLS Made in the USA 800-365-5525

FONT #	SAMPLE FONT
13	ICM CONTROLS Made in the USA 800-365-5525
14	ICM CONTROLS Made in the USA 800-365-5525
15	ICM CONTROLS Made in the USA 800-365-5525
16	<i>ICM CONTROLS</i> Made in the USA 800-365-5525
17	ICM CONTROLS Made in the USA 800-365-5525
18	ICM CONTROLS Made in the USA 800-365-5525
19	ICM CONTROLS Made in the USA 800-365-5525
20	ICM CONTROLS Made in the USA 800-365-5525
21	ICM CONTROLS Made in the USA 800-365-5525
22	ICM CONTROLS Made in the USA 800-365-5525
23	ICM CONTROLS Made in the USA 800-365-5525
24	ICM CONTROLS Made in the USA 800-365-5525

FONT #	SAMPLE FONT
25	<i>ICM CONTROLS</i> Made in the USA 800-365-5525
26	ICM CONTROLS Made in the USA 800-365-5525
27	ICM CONTROLS Made in the USA 800-365-5525
28	ICM CONTROLS Made in the USA 800-365-5525
29	ICM CONTROLS Made in the USA 800-365-5525
30	<i>ICM CONTROLS</i> Made in the USA 800-365-5525
31	ICM CONTROLS MADE IN THE USA 800-365-5525
32	ICM CONTROLS Made in the USA 800-365-5525
33	ICM CONTROLS Made in the USA 800-365-5525
34	<i>ICM CONTROLS</i> Made in the USA 800-365-5525
35	ICM CONTROLS Made in the USA 800-365-5525
36	ICM CONTROLS MADE IN THE USA 800-365-5525

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SimpleComfort® Custom Logo Thermostats

Ordering Recommendations

1. **Read entire Custom Logo Request Form prior to completing it:**
 - If you do not understand something, contact your ICM representative
 - ANY modifications to a previous “signed off” logo require a new request form
2. **Completely fill out request form:**
 - Print appropriate information in blank spaces on form
 - Pay special attention to check boxes
 - If you are choosing a font from the Sample Font Page, make sure the font number appears in the appropriate box on the form (lower left)
 - **DO NOT send in P/O with initial request form** (i.e.: on fax cover page)
3. It is especially important to note that you should contact the customer's graphics company to get a properly formatted logo emailed to ICM. Contact the graphics company and review with them items 1-6 under “Graphics Specifications” on the Custom Logo Request Form. They will understand the terminology.
4. Get a commitment from the graphics company as to when the graphic will be emailed to ICM. Note this date on the request form and follow up to verify the logo was sent by the graphics company and received by ICM.
5. If the graphics company charges a fee to transmit the logo to ICM, the customer is responsible for that fee.
6. If the “Accommodations have been made...” box was checked under Logo Origin, and no logo is submitted, there will be no completed thermostats.
7. Fax in completed request form and a clean/enlarged copy of the customer's logo, and be sure the logo is exactly what the customer wants; if there is something on the logo that will not go on the thermostat, please cross it off.
8. The finished drawing will be assigned a logo number that will begin with the letter “L”. **Reference this number on your purchase order AFTER you receive the drawing;**
 - Failure to reference this “L” number on your P/O may result in the customer receiving blank thermostats. New covers with new logo are \$3.75 each
 - Referencing an incorrect or outdated logo number will result in wrong covers
9. Sign offs with purchase orders are expected within 10 days of the drawing's completion. Both signed off drawing and purchase order (referencing a specific “L” number) must be faxed to ICM to complete the order. Failure to submit one or the other will cause delays.



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800.365.5525